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ABSTRACT

Drawing on data from the 1995 National Household Education Survey, this report examines the characteristics of the care and education children receive on a regular basis before they enter school. The report focuses on various characteristics of child care arrangements categorized into two groups: those that have been associated with children's development and those that stem from parental concerns other than child development, such as family budget or work schedules. Following an introduction detailing data sources and limitations and what characteristics of child and family and of non-parental care are of interest, the report presents factors and findings in the following areas: (1) what were children's experiences in non-parental care in 1995; (2) what factors were associated with the types and characteristics of the child care arrangements that parents chose; (3) what were parents' sources of information and preferences regarding child care arrangements; (4) what were parents' preferences related to the attributes of the child care arrangements they selected; and (5) what were parents' preferences related to the types of arrangements they selected. The final section of the report provides a summary and conclusions. Among the findings highlighted are the following: (1) compared with children who did not have various characteristics associated with school failure, children who had these characteristics spent more time in nonparental care and were more likely to be in multiple care arrangements; (2) parents valued having their children cared for by a trained provider and with a small number of children, cost of child care was almost as important as the number children cared for; (3) a variety of other child care characteristics were related to parents' choices, including distance between home and care, whether sick child care was available, and whether English was spoken most of the time; and (4)

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inconsistent relationships were found between cost of care and characteristics associated with positive child outcomes. The report's two appendices present supplemental tables of data and technical notes and methodology of the study. (Contains 57 references.) (HTH)

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Statistical Analysis Report June 1998

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U.S. Department of Education
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NATIONAL CENTER FOR EDUCATION STATISTICS

Statistical Analysis Report **June 1998**

Characteristics of Children's Early Care and Education Programs: Data from the 1995 National Household Education Survey

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Executive Summary

This report examines the characteristics of the care and education children receive on a regular basis before they enter school. In doing so, it addresses four questions that have surfaced with the prevalence of nonparental child care and children's increased participation in early childhood education programs:

- Were children at greater risk of school failure[1] less likely than other children to be in education programs or nonparental care arrangements that facilitate child development?
- Where did parents get information about their child care arrangements? In particular, was the cost of child care a good indicator of its quality?
- What were parents' preferences regarding nonparental child care and early childhood education programs?
- Were parents' preferences reflected in the types and characteristics of their children's primary nonparental care arrangements or early childhood education programs? Did parents get what they wanted?

To address these issues, this report focuses on various characteristics of child care arrangements that can be categorized into two groups: those that have been associated with children's development, and those that stem from parental concerns other than child development, such as staying within budgets or maintaining work schedules. Of the former, this study includes the following:

- the amount of time children spend in nonparental care;
- the number of different nonparental arrangements in which a given child is cared for;
- the ratio of children to staff;
- whether the teacher or child care provider was trained in child development;
- whether the care arrangement or education program offered services such as health or psychological screening;

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[1] Children are defined as "educationally disadvantaged" or "at risk" if they have one of several characteristics that have traditionally been associated with school failure or developmental difficulties, such as being from a low-income or single parent family.

- whether parent involvement in the program was encouraged; and
- whether the teacher or care provider spoke English to the child most of the time.

Of the latter, child care characteristics that are relevant to parental concerns independent of child development, this study includes the travel time between the program and home, its cost, and the availability of sick child care.

The data from which the findings are drawn were collected as part of the 1995 National Household Education Survey (NHES:95), in which a nationally representative sample of the parents of children who were age 10 or younger and in third grade or below were interviewed. The survey not only obtained detailed information about children's nonparental care arrangements and early childhood education programs but also gathered information about the parents and children themselves. The focus of this report is on children who were under age 6 and were not yet enrolled in kindergarten, whom we refer to as preschool children.

WERE CHILDREN AT RISK OF SCHOOL FAILURE LESS LIKELY THAN OTHER CHILDREN TO BE IN PROGRAMS OR ARRANGEMENTS THAT FACILITATE CHILD DEVELOPMENT?

In 1995, 59 percent of preschool children were in some type of nonparental arrangements on a regular basis.[2] Twenty-eight percent of preschoolers were in full-time nonparental care (i.e., 35 or more hours per week). Although infants were less likely than older children to be in nonparental care, among those children in regular nonparental care, younger children spent more hours per week in such arrangements than did older children. Furthermore, children at greater risk of school failure spent more time per week in nonparental care, on average, than did other children.

Being cared for in more than one nonparental care arrangement at a time may be detrimental to infants and very young children, who may require consistent caregiving in order to form the attachments necessary for later development. The NHES:95 data indicate that infants were rarely cared for in such arrangements, although the incidence increased with the child's age. The use of more than one nonparental care arrangement at a time was more common among children at greater risk of school failure than among other children.

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[2] For simplicity's sake, from this point, "nonparental care arrangement" or "nonparental arrangement" is used to denote either nonparental child care or an early childhood education program.

Family income, a key risk factor, was strongly associated with the type of primary nonparental care children received. Compared with those of children from higher income families, the primary arrangements of children from low-income families were more likely to be Head Start programs, family child care, or relative care, rather than other center-based programs. The age of the child and the employment status of the mother were also associated with the type of primary child care arrangement. For example, older children were more likely to be in center-based care, and younger children in informal care arrangements (family child care, relative, or in-home care). Moreover, children of employed mothers were more likely to be in family child care, in-home care, or relative care and less likely to be in Head Start as their primary arrangement, than children of mothers who were not employed. Similarly, among children in multiple nonparental arrangements, informal arrangement combinations were more common among young children, whereas combinations of formal arrangements were more common among older children.

The characteristics of children's nonparental care varied with the type of care they received. Children who spent most of their time in in-home child care or in family child care were cared for with fewer children than those in other nonparental care arrangements, were more likely to have a care provider who spoke a language other than English with them, and were more likely to be cared for by their nonparental care provider when they were sick. Also, children in family child care were more likely to live within 10 minutes of their primary nonparental care provider than children cared for by relatives or enrolled in center-based programs. The cost of the primary nonparental care arrangement was highest for children in in-home and non-Head Start center-based care. Finally, formal center-based programs were more likely than other primary arrangements to offer trained child care providers and services such as developmental screening and health examinations.

Likewise, the attributes of children's primary nonparental care varied according to several family factors, after adjusting for other child and family characteristics and type of primary arrangement. Not surprisingly, children from families with incomes of more than $50,000 were in more expensive care than children from families with incomes of $15,000 or less. Children of mothers not in the work force were less likely to be enrolled in primary arrangements that offered sick child care and were more likely to be enrolled in programs close to their homes than children of mothers who were working or looking for work. In addition, the primary nonparental care providers of Hispanic children, children of other non-black minority racial–ethnic backgrounds, and children in predominately non-English-speaking households were much less likely to speak

English with them than those of white, non-Hispanic children and children in English-speaking households, respectively. Child/staff ratios and the training of the care provider were not related to the characteristics of the parents; however, ratios were related to child age, and ratios and training were both related to the type of child care arrangement.

Based upon the characteristics measured in this study, children at greater risk of school failure did not receive care or education of lower quality than did other children. Adjusting for other child and family characteristics and type of primary arrangement, children from low-income families were more likely than those from high-income families to have access to health-related services and sick child care through the primary arrangement. Several other risk factors, such as having a disability, not speaking English at home, being from a large family, and having a mother who had not received a high school diploma, were also associated with receiving more services. Considering the access to health-related services through their primary arrangements alone, children at greater risk of school failure were more likely to receive such services than other children. With respect to other child care characteristics associated with positive outcomes for children—the child/staff ratio, whether the care provider or teacher had training in child development, whether parent involvement was encouraged, and whether the child care provider spoke English with the child most of the time—there were no consistent differences between children at greater risk of school failure and other children.

WHERE DID PARENTS GET INFORMATION REGARDING CHILD CARE ARRANGEMENTS?

More than half of children's parents reported that friends were their source of information about their primary nonparental child care arrangements. Parents of older children were more likely to learn about the arrangement through a school, and employed mothers were more likely to do so from an employer.

Parents could not judge program characteristics by program cost. For example, they did not obtain a lower ratio of children to staff or more services when paying more, even after adjusting for the age of the child and other factors. The only child development-related care characteristic associated with price was provider training; primary arrangements with trained care providers cost parents more. Parents also paid more when care was close to home.

WHAT WERE PARENTS' PREFERENCES REGARDING CHILD CARE ARRANGEMENTS?

Parents' preferences for child care characteristics were consistent with child development experts' opinions on the characteristics that matter to children's development. Parents were more likely to report that having a small number of children and a trained provider were important in choosing a child care arrangement than to say that cost and convenience were important.

For each of six child care characteristics—the availability of sick child care, the number of children cared for at the same time, whether care was provided at reasonable cost, whether the care provider was trained in child development, whether the care provider spoke English with the child most of the time, and whether the care was close to home—parents were asked whether the characteristic was very important, somewhat important, or not important in choosing a child care arrangement. With the sole exception of sick child care, which 49 percent of parents reported was important, more than half of all parents reported that each of these characteristics was very important in selecting a child care arrangement.

A few child and family characteristics were associated with parents' preferences. For instance, the age of the child was related to parents' preferences: whereas parents of young children were more often concerned about the number of children cared for and whether sick child care was available, parents of older children were more often concerned about having a trained provider and whether English was spoken. Mothers seeking work were concerned about the cost of care and availability of sick child care more often than mothers who were already employed. Families with one or more risk factors were more concerned about the cost of care, convenience, the availability of sick child care, and provider training, compared with families with no risk factors.

DID PARENTS GET WHAT THEY WANTED?

In general, when parents reported that a characteristic was very important to them, their children were likely to be in a primary arrangement with that characteristic. There was one exception, however. No association was found between a preference for care of reasonable cost and being in a less costly arrangement, adjusting for other factors. This may be because what parents think is "reasonable" cost varies with household income or because parents are constrained in their choices. In addition, although children whose parents wanted trained child care providers did tend to have them, the link between parents' preference for a small number of children and the child/staff ratio in the child's program was found only when type of arrangement was not controlled.

Children whose primary arrangements were family child care were less likely than those in a child care center to have care providers who were trained in child development. This is consistent with the result that children whose parents wanted a trained provider were less likely to be cared for in family child care or in relative care than in center-based care. In addition, informal arrangements are more likely than center-based care to provide sick child care. Consistent with this, those children whose parents preferred sick child care were more likely to be placed in family child care or relative care than in non-Head Start center-based care. Parents do appear to obtain arrangements that fit their preferences.

SOME IMPLICATIONS

Previous studies have found parents to be less concerned about the training of their child's care provider than about other aspects of the care setting such as cost and convenience. These new data suggest that parents recognize the importance of having a trained provider and prefer their child's provider be trained in child development. In addition, training is the one quality characteristic for which parents apparently pay more, and it is also the one quality characteristic that is linked with parents' choice of arrangement. Since training is viewed by the child development community as a key component of quality child care, these findings offer promising signals that parental preferences and child development experts' recommendations diverge less than believed.

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Chapter 1. Introduction

This report examines the characteristics of the care and education children receive on a regular basis from individuals and organizations before they enter school. The types of arrangements include care and education in formal center-based programs such as child care centers, preschools, and Head Start, as well as informal care by relatives or by nonrelatives either in the child's home (in-home child care) or in the provider's home (family child care).

Each chapter of this report addresses a set of research questions:

- Chapter 2. What were children's experiences in nonparental care in 1995? More specifically, how many hours per week did children spend in nonparental care? In how many different arrangements were they cared for? In what types of nonparental care arrangements or early childhood education programs did children participate, and what were the attributes of these arrangements or programs?
- Chapter 3. What characteristics of parents and children, and in particular, which risk factors were associated with the hours children spent in care, the number of nonparental care arrangements, the primary type of arrangement chosen, and the attributes of children's primary nonparental care arrangements?
- Chapter 4. What were parents' major sources of information regarding early care and education options for their children? How were family characteristics linked to the sources of information they used? Did parents pay more for attributes that were associated with child development or other child and family demands? What were parents' expressed preferences regarding the attributes of care for their children?
- Chapter 5. How were parental preferences connected to the attributes of their children's primary nonparental care arrangements?
- Chapter 6. How were parental preferences linked to the types of arrangements that they selected? Were parents' preferences reflected in their arrangement choices? Which preferences were related to the types of care that parents selected, adjusting for their own and their children's characteristics?

DATA SOURCE AND LIMITATIONS

In order to address these questions, this report presents analyses of the Early Childhood Program Participation Component of the 1995 National Household Education Survey (NHES:95). For more information, see the Technical Notes and Methodology section (appendix

B). NHES:95 was designed to gather descriptive data in order to learn about educational activities of American families and their children that cannot be studied through school- or institution-based surveys. Households were sampled using random-digit dialing methods, and interviews were conducted using computer-assisted telephone interviewing (CATI) techniques. The study collected data between January and April of 1995 on a nationally representative sample of 14,064 children from birth through age 10 and in third grade or below.

The population to which the current study can be generalized is the population of resident U.S. children from birth through 5 years of age as of January 1, 1995 who were not enrolled in school. This population includes the approximately 21.4 million children who had not yet entered kindergarten. This covers the majority of children under age 5, because few children are enrolled in kindergarten before that age, and about one-third of 5-year-olds, because about two-thirds of 5-year-olds are enrolled in kindergarten. About 7,500 sample children who met the selection criteria were included in the NHES:95.

The NHES:95 instrument collected data on children's participation in home-based (i.e., family child care, in-home care, and relative care) and center-based (i.e., child care centers, preschools, and nursery schools) nonparental care arrangements, as well as the characteristics of these arrangements. The survey also collected data on a variety of child and family characteristics that can be used to identify children who are educationally disadvantaged. Therefore, the NHES:95 is a valuable source of information on these children's nonparental care arrangements and participation in early childhood education programs.

The characteristics of children's nonparental care arrangements were also investigated using the NHES:95. In this survey, parents were asked to provide information about each of their children's nonparental care arrangements and education programs. Information was obtained on group size, number of staff members, whether the teacher or provider was trained in child development, fees paid, travel time between home and child care, parental involvement, services provided, and number of hours in care.[3] As discussed above, the quality of children's experiences and their subsequent development is influenced by some of these characteristics (Hayes et al. 1990; Phillips 1987). Consequently, with these data it is possible to go beyond simply reporting children's participation in broad categories of arrangements to describing the degree to which children with various characteristics are cared for in arrangements that vary in developmentally related ways.

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[3] Questions concerning the services provided and whether parental involvement was encouraged were asked only of parents whose children were enrolled in a center-based program.

Finally, parents' preferences for child care arrangements and early education programs can also be investigated using NHES:95. For each of a number of child care characteristics parents may look for in selecting care arrangements for their children, parents were asked whether each was very important, somewhat important, or not important in selecting an arrangement or program. These data permit study of the relationships between parents' child care preferences and the types of arrangements they make for their children.

One limitation of the present study arises from the nature of the data. Characteristics of children's programs were reported by their parents; no information was provided directly by programs. The last national research that collected information from both parents and their children's preschool programs was conducted in 1990 (Hofferth, Brayfield, Deich, and Holcomb 1991; Kisker, Hofferth, Phillips, and Farquhar 1991; Willer et al. 1991). This research found that the characteristics of programs reported by parents matched those reported by programs, on average. In particular, parents appear to have reported their expenditures for child care relatively accurately (Willer et al. 1991). However, the accuracy of parents' reports of other characteristics depends upon how evident those characteristics were to the parents and how familiar they were with their children's care arrangements (Helburn et al. 1995). For example, parents' estimates of group size were more accurate when their children were in family child care than when they were in child care centers (Hofferth, West, Henke, and Kaufman 1994).

WHY FOCUS ON THE CHARACTERISTICS OF CHILD CARE ARRANGEMENTS?

As more and more children spend time in settings outside their home (West, Wright, and Hausken 1995), researchers have focused on the quality of the care and early childhood education they receive (Hayes et al. 1990). Developmental psychologists have identified several aspects of nonparental care arrangements that may be linked with positive child outcomes. These include the type of care; the amount of time the child spends in nonparental care; the number of different arrangements in which a child is cared for; and attributes of the arrangement, such as the number of children per staff member (the child/staff ratio), the number of children cared for (group size), and the nature of the interaction between care provider and child (Hayes et al. 1990; Phillips 1987).[4] Moreover, literature for parents encourages them to consider these characteristics when choosing a program or care arrangement for their children (Hayes et al. 1990). In this report, "quality" is defined as those characteristics previously associated with better developmental outcomes for children.

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[4] A variety of other factors characterize early childhood care and education, of course; data were gathered on this limited but important set of characteristics in the survey that forms the basis for the present study.

Economists argue that parents value and want other aspects of care as well (Blau 1991). In arranging for child care or choosing education programs for their preschoolers, parents may have budgetary or scheduling constraints to consider, as well as their children's welfare. Furthermore, parents may have preferences that are based neither on considerations of child development nor on scheduling requirements, such as their willingness to travel to and from programs regardless of their schedules. Because a single program is unlikely to meet all of parents' and children's needs, parents may make trade-offs between and among various aspects of arrangements.

However, if parents need to strike a balance between their work schedules and budgets on the one hand, and their children's developmental needs on the other, and this leads to inadequate attention to children's development, society may ultimately lose the potential contributions of its children. Therefore, it is important to examine the characteristics of children's early care and education arrangements, including both characteristics that have been linked to positive outcomes for children and those that are related to other family needs. In this way, appropriate interventions, if necessary, can be developed to ensure that the needs of both children and parents are met.

To date, research has found only weak evidence of an association between child development-related attributes of care and parents' choice of arrangements, although it has identified very strong associations between such characteristics of care arrangements as convenient location and cost, and parental choice (Hofferth and Wissoker 1992; Mitchell et al. 1992). There are at least three possible interpretations of this lack of association:

1) When making child care decisions, parents may value attributes related to child development less than they value other attributes of child care arrangements. Exactly which attributes of child care are important to parents is a question meriting further inquiry. It is not clear, for example, whether existing research has captured all of the characteristics of child care or early education programs that parents value. In addition, developmentally related attributes are difficult to measure.

2) Alternatively, parents may not be well informed about the care their children receive or may not know how to recognize attributes related to child development. Although parents may use the cost of a care arrangement as an indicator of its quality, several studies have failed to find a strong association between the quality of care, as defined by child psychologists, and how much the care costs (Helburn et al. 1995; Waite, Leibowitz, and Witsberger 1991). Thus, parents may have difficulty when attempting to identify high quality care.

3) Third, choice may be constrained. Parents may know what they want, but not be able to find it in their community. They may face limitations either on the type of arrangement (for example, no Head Start programs) or on the range of characteristics of programs (for example, only low quality programs are available).

Much policy discussion has focused on how public policies can improve the likelihood that children receive care that enhances their growth and development (Hayes et al. 1990). There are many ways that this objective could be achieved. One approach might address the third issue above, the characteristics of programs. It may involve tightening and enforcing regulations or increasing incentives for providers to offer care that meets children's developmental needs. However, such an approach might fail to achieve its objective if it increases the cost of care beyond what parents are willing or able to pay. In this case, policy initiatives could lead to less use of high quality care (Blau 1991; Hofferth and Chaplin forthcoming). Another approach might address the needs of parents for information about care arrangements, the second issue above. A third approach might improve parental access to information about which characteristics are important to children's development and how to recognize them, the first issue described above. The importance of understanding the factors that lead parents to select one type of care over another is useful in sorting out the appropriate means for improving children's nonparental experiences and should not be underestimated.

WHAT CHARACTERISTICS OF NONPARENTAL CARE ARE OF INTEREST?

A number of characteristics of early care and education arrangements and children's participation in them have been proposed as important factors affecting children's development. These factors include the type of arrangement or program, the length of the child's day, the ratio of children to staff, the training of the teacher, the number of different arrangements, the availability of services such as health and psychological screening, parent involvement in the program, and whether the child care provider or teacher speaks English. This section discusses research findings regarding the relationship between these characteristics of child care and subsequent child development. Other qualities of child care, including the location of the program, its cost, and the availability of care when the child is sick, can also be important to parents' child care decisions. This section, therefore, also discusses research regarding how these factors affect parents' decisions about early care and education.

Characteristics of Care Related to Child Development

The Type of Care Arrangement or Early Education Program

Child care arrangements are usually characterized in terms of both the intensity of the relationship between child or parent and provider and the formality of the relationship.[5] The least formal arrangement and the one with the closest tie between child or family and child care provider is relative care, which is care provided by a relative (other than a parent) in the child's home or in the relative's home. Other informal care arrangements include in-home child care, which is care provided by a nonrelative in the child's home, and family child care (or family day care), which is care provided by a nonrelative in the provider's home. Formal center-based programs such as preschool programs and child care centers are nonresidential establishments where children are cared for in a group setting for all or part of the day. Such programs may be sponsored by another organization or institution, such as Head Start, a public school, a church, or an employer, or they may be independent. They may be operated as for-profit or not-for-profit programs.

The type of child care arrangement could affect children's well-being in varying ways, and whether different types of child care have different effects on children's development has been studied extensively. In 1990 more than 95 percent of child care center directors reported that their goal was to promote children's development (Willer et al. 1991), and research has demonstrated that center-based care may enhance the cognitive and social development of children. In one study, middle-class children aged 2 to 3 years old in center-based programs scored higher on tests of cognitive ability, social knowledge, and social competence than their counterparts who were not in such programs (Clarke-Stewart 1987). In addition, Head Start has been shown to have large short-term effects on the cognitive development of low-income children (McKey et al. 1985), and long-term effects on low-income white and Hispanic children (Currie and Thomas 1995).

However, the type of program that best supports child development may vary with the age of the child. This sentiment is reflected in parental preferences for informal home-based arrangements for infants and toddlers and more formal structured programs that prepare children for school for older preschoolers (Leibowitz, Waite, and Witsberger 1988). Furthermore, other research has suggested that very young children fare better in the more individualized care provided in informal arrangements, than in larger-scale center-based programs (Hayes et al. 1990).

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[5] Formality refers to the structure of the child's day. The degree of formality of the arrangement varies, of course. Many "informal" providers structure part of the child's day for learning activities, while others facilitate children's learning without formal structure.

Unfortunately, recent research suggests that family child care and relative care for infants and toddlers may not be of the highest quality (Galinsky, Howes, Kontos, and Shinn 1994). Yet other research contradicts this disturbing picture of low quality care. A recent study found no direct effect of type or quality of care on the attachment security of infants at 15 months (NICHD Early Child Care Research Network 1996a). In sum, contemporary research has not identified quality differences by type or clearly identified types of care that are better or worse for all children.

Recent research found some evidence that infants of less responsive and sensitive mothers were less likely to be secure, however, when cared for in child care of low quality, longer hours, or lower stability (NICHD Early Child Care Research Network 1996). These results suggest that, rather than the type of care, it is its various characteristics—which may be more associated with some types of care than others, but which vary within and among types of care—that best predict how nonparental care affects children's development.

Among the characteristics of nonparental care and education that have been investigated are the amount of time children spend in care; the child/staff ratio; the primary language and training of the care provider; the number of nonparental care arrangements a child is in; and for center-based care or education programs, whether the child has access to health-related services or developmental screening, and the extent of parents' involvement.

Amount of Time Spent in Nonparental Care

Researchers are concerned that children may be harmed by spending too much time in nonparental care, especially very young children. In several studies, infants in early care of more than 10–20 hours per week were found to be less securely attached to the parent (Baydar and Brooks-Gunn 1991; Belsky 1988; Hayes et al. 1990). No such harmful effects was found among children who were older when first placed in nonparental care or education. Recent research (NICHD Early Child Care Research Network 1996a) found no significant effects of the amount of time spent in child care on the attachment security or avoidance of infants. By age 3, greater hours of child care across the first three years were associated with less sensitive and engaged mother-child interactions, but were not directly related to cognitive and language outcomes (NICHD Early Child Care Research Network 1997).

Ratio of Children to Staff

Low ratios of children to staff members in child care centers have been associated with children engaging in more creative, verbal, and cooperative activity, and making more gains on standardized tests (Ruopp, Travers, Glantz, and Coelen 1979). Caregivers who care for too many children give less personal attention to each child, and insufficient child-caregiver interaction is unfavorable to children's cognitive and social development (Hayes et al. 1990). The National Child Care Staffing Study found that teachers in classrooms with better ratios were better teachers; that is, they were more sensitive and less harsh and detached (Whitebook et al. 1989). Recent research shows that both small group sizes and low child/staff ratios are associated with positive care-giving behaviors (NICHD Early Child Care Research Network 1996b).

Care Provider or Teacher Training

Other important attributes of child care arrangements are the teacher or provider's specialized training in child development and their level of formal education. Children's development is enhanced when their care providers or teachers have special training in areas that are related to child development (Hayes et al. 1990). Other research has also shown that the formal educational level of the provider is associated with more sensitive caregiving (Whitebook, Howes, and Phillips 1989). Recent research shows that for both in-home care and family child care, providers with more specialized training in child development were more positive caregivers (NICHD Early Child Care Research Network 1996b). In child care centers, in contrast, caregivers with higher levels of formal education were the more positive caregivers.

Number of Nonparental Care Arrangements

Multiple nonparental care arrangements may be difficult for both parents and children to adjust to and benefit from. One study found that children who experienced a greater number of different arrangements played in less complex ways than those with a smaller number (Howes and Stewart 1987). In addition, having more primary caregivers across different arrangements may inhibit the child's attachment to one caregiver (Suwalsky, Zaslow, Klein, and Rabinovich 1986).

Care Provider or Teacher Language

Many non-English-speaking parents may be interested in having a provider from the same cultural background to assist in raising their children in their native language. For very young children whose families speak a language other than English, a good quality child care program may provide teachers who support the child's verbal language development in the home language while also introducing English. While this may be important for infants, as children grow older it may become more important for them to speak English in order to prepare for school (Portes and Schauffler 1996). Thus evaluating the importance of provider language will depend on the child's home language and age as well as parental preferences and other factors.

Developmental Screening and Other Health Services

Identifying learning problems or other disabilities early may lead to treatment and prevent significant developmental delays (Zigler, Piotrkowski, and Collins 1994). Therefore, the availability of such services as hearing, speech, or vision testing; physical or dental examinations; and formal testing for developmental or learning problems may be helpful to children who would not ordinarily receive such screening until they enter school. Some preschool or nursery school programs, in particular Head Start programs, offer these services to children (Hofferth and Kisker 1994).

Parental Involvement

Previous research has shown that parental involvement in early childhood education programs has been associated with improved classroom behavior and higher learning skills at the end of the year (Reynolds 1992; Taylor and Machida 1994). Less is known, however, about whether the opportunity to become involved matters to parents. Head Start believes that parental involvement is beneficial to both parents and children and strongly encourages parents to become involved in all aspects of its programs (Advisory Committee on Head Start Quality and Expansion 1993). Consequently, parents with children in Head Start may be more involved in their children's programs than parents of children in other programs.

Characteristics of Care Related to Other Family Needs: Distance, Cost, and Sick Child Care

Other aspects of nonparental care arrangements or early childhood education programs may be related to other family scheduling considerations (e.g., school or work), convenience, or the family budget. For example, a program that is too far away from home may be inconvenient or may make it difficult for a child's mother to meet work commitments or to get other children to school on time (Hofferth and Collins 1996). A program that is too costly may also make it difficult for a mother to justify working and may lead her to leaving the work force (Blau and Robins 1988; Hofferth and Collins 1996; Hofferth and Wissoker 1992).

One difficult aspect of parental employment is caring for a sick child. Parents whose providers care for sick children will be less likely to miss work when their children are ill. Consequently, in addition to the distance between home and care and the cost of care, having access to sick child care may be important to parents who are employed outside the home and have less access to unpaid and flexible leave (Hofferth 1996).

WHICH CHILD AND FAMILY CHARACTERISTICS ARE OF INTEREST?

Because some characteristics of child care do enhance children's likelihood of success in school (Hayes et al. 1990), it is important to determine whether children vary in their likelihood of receiving early care with characteristics positively associated with child development. For example, do different types of parents choose different types of care or care with different characteristics, thereby enhancing or reducing their children's probability of success in school? This section describes the child and family characteristics that have been associated with the types and characteristics of the nonparental care and education arrangements of young children. In particular, it discusses the child and family characteristics that have been associated with increased likelihood of school failure. Because early childhood experiences of at-risk children can enhance their cognitive and social development and reduce the risk of school failure, it is particularly important to study the types and characteristics of their preschool nonparental care.

Child and Family Characteristics Associated With the Type of Nonparental Care

A substantial amount of research has been conducted on the family and individual factors associated with parents' choices of child care modes (Blau and Robins 1988; Hofferth and Wissoker 1992; Lehrer 1983; Lehrer 1989; Lehrer and Kawasaki 1985; Leibowitz et al. 1988; Robins and Spiegelman 1978; Yaeger 1979). For example, parents with younger children prefer home-based child care, while parents of older children prefer center-based care (Leibowitz et al. 1988). Hispanic ethnicity may also be related to parents' child care choices, as Hispanics demonstrate a strong cultural value for community and family (Fuller et al. 1996). Controlling for a variety of other factors, Hispanic families were less likely than white families to enroll their 3- to 5-year-old preschoolers in center-based early childhood programs in 1991 (Hofferth, West, Henke, and Kaufman 1994). In addition, factors such as mothers' employment status and work hours can play an important role in the child care decisions of families. For example, mothers who are employed more hours are less likely to use informal arrangements or to share care with their spouses or partners, as are mothers who are employed non-traditional hours such as in the evenings or on weekends (Brayfield 1995; Hofferth and Wissoker 1992).

Differences in the cost and availability of child care may also be reflected in the choices made by families in different regions and types of communities. As an example, children in urban areas and the South[6] are more likely than children in rural areas or other regions of the country to enroll in center-based programs (Hofferth, Brayfield, Deich, and Holcomb 1991), since there are more centers in these locations relative to the number of children who might need nonparental care (Kisker, Hofferth, Phillips, and Farquhar 1991). In addition, because the cost of living varies between both urban and rural areas and the South and other regions of the country, the cost of care varies according to community type and region as well (General Accounting Office 1997; Macro International 1995).

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[6] Children in the South tend to be enrolled in part-day programs; center-based programs may not be their primary arrangement.

Family and Child Characteristics Associated With School Failure

Children are defined as "educationally disadvantaged" or "at risk" if they have one of several characteristics that have traditionally been associated with school failure or developmental difficulties (Pallas, Natriello, and McDill 1989; Zill, Collins, West, and Hausken 1995). These include family characteristics such as low income, being headed by a single parent, or having many children. Since mothers are generally children's primary caregivers, their characteristics, such as whether they have less than a high school education or have given birth to children as teenagers, are also important. Having a disability also places children at risk for school failure. Not speaking English at home (Sameroff, Seifer, Barocas, Zax, and Greenspan 1987) has been associated with children's lower academic achievement. While the fact that a child or his/her family has one of these characteristics does not necessarily mean that the child will do poorly in school, school problems are more likely for these children. In addition, the more risk factors that a child has, the lower his or her level of vocabulary comprehension and social adjustment is likely to be (Sameroff, Seifer, Barocas, Zax, and Greenspan 1987).

SUMMARY

One of the ways in which child and family characteristics may be connected to increased rates of school failure may be their relationship with parents' choices of child care arrangements or early childhood education programs. Although Head Start programs and subsidies for other early childhood education programs provide more opportunities for low-income children to attend high quality early education programs, not all eligible children are served by these programs. Thus, it is important to determine the degree to which child and family characteristics are associated with children's participation in nonparental care arrangements that might enhance or inhibit their likelihood of success in school.

The purpose of this report is not to evaluate whether children were in "good" or "bad" programs; rather, it is to examine the attributes of the programs in which the nation's children were cared for, parents' sources of information about child care arrangements, and the consistency between parents' child care preferences and the characteristics of their children's programs. Thus, this report is intended to provide readers with a better understanding of the factors associated with parents' selection of nonparental care arrangements and early childhood education programs.

Chapter 2. What Were Children's Experiences With Nonparental Care In 1995?

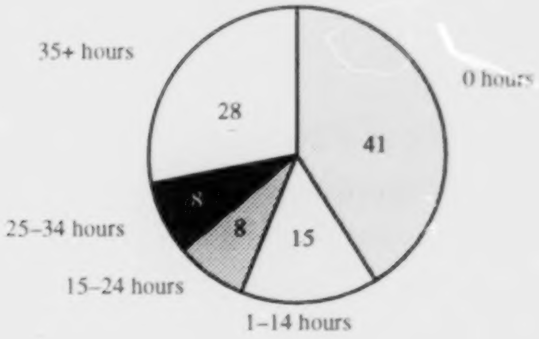
This chapter describes children's experiences in nonparental child care during 1995. It first discusses the number of hours per week that children spent in nonparental care; the number of nonparental arrangements in which a child was cared for; and for children in more than one arrangement, the combinations of arrangements they were in. It continues by describing the type of arrangement in which children spent the most time (their primary nonparental care arrangements) and the characteristics of these arrangements.

HOURS IN NONPARENTAL CARE

The number of hours spent in nonparental care arrangements or early childhood education programs has been linked to child development. Figure 1 shows the percentage distribution of preschool children according to the total number of hours per week they spent in nonparental care in 1995. About 41 percent of preschoolers spent no time in nonparental care, 15 percent spent some time, but less than 15 hours, 8 percent spent 15 to 24 hours, 8 percent spent 25 to 34 hours, and 28 percent spent 35 or more hours per week in nonparental care or early education programs. Thus, fewer than 3 out of 10 preschool children were in some kind of regular full-time nonparental care (35 or more hours per week). However, among children who were in nonparental care, almost half (47 percent) were in full-time care (table 1).

The use of parental care varies with the age of the child, with 56 percent of infants under age 1 in parental care, declining to 16 percent of children by age 5. One might expect older children in nonparental care to be there for more hours; however, this is not the case. Although 1-year-olds were less likely than 4- to 5-year-olds to be enrolled in nonparental care, 1-year-olds who were in nonparental care spent an average of 4 more hours per week there than did 4- and 5-year-olds. If mothers were using nonparental care for very young children, they may have been doing so because they were working a substantial number of hours, perhaps due to greater economic need or a job commitment.

Figure 1.—Percentage distribution of preschool children under 6 years old according to number of hours per week in nonparental care: 1995



NOTE: For supporting data see table A1.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

NUMBER OF NONPARENTAL CARE ARRANGEMENTS

Research has shown that having multiple caregivers in the early years may diminish children's attachment to their parent(s), as discussed earlier, and make child care arrangements difficult for parents to manage (Hayes et al. 1990). In the first year of a child's life, it is important that the child achieve a secure attachment to his/her caregiver in order to facilitate later development (Hayes et al. 1990). Figure 2 shows the percentage distribution of children according to the number of regular nonparental arrangements in which they received care by the age of the child. Among all children, 41 percent had no nonparental care arrangement, 47 percent had one, and 12 percent had two or more arrangements. Among infants (children under age 1), almost 56 percent had no nonparental arrangement, 38 percent had one, and 6 percent had two or more. Whereas 38 percent of infants had one nonparental arrangement and 6 percent were in multiple arrangements, the proportion of children in both one and multiple arrangements varied with age. As an example, children aged 4 and 5 were more likely than children under age 3 to be in one or multiple arrangements. Sixteen percent of 5-year-old preschool children had no nonparental care arrangement, 59 percent had one, and 25 percent had two or more arrangements.

Table 1.—Percentage of preschool children under 6 years old in parental care only; and of those in some nonparental care, percentage distribution according to number of hours per week in nonparental care and average number of hours in nonparental care, by age: 1995

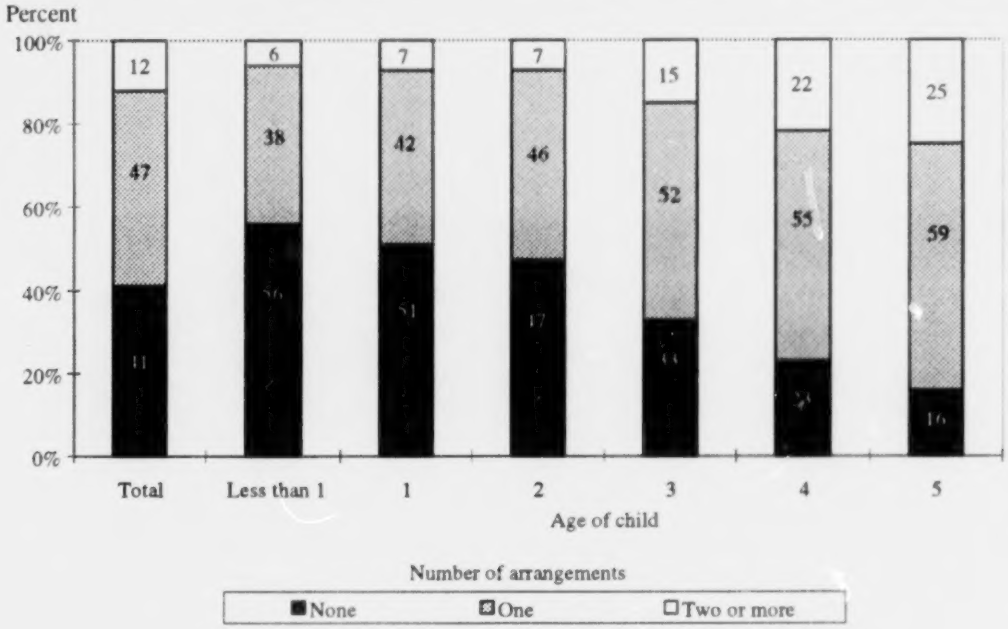
Age	Number of children	Parental care only		Distribution of preschool children who spent time in nonparental care								Average hours	
				Less than 15 hours		15–24 hours		25–34 hours		35 + hours			
		Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Mean	se
Total	21,414,000	41	0.9	26	0.8	14	0.6	13	0.7	47	1.0	30	0.3
Less than 1	4,158,000	56	1.6	19	2.0	15	1.7	14	1.9	52	3.0	31	0.9
1	4,027,000	51	1.7	19	1.5	15	1.5	13	1.3	53	2.5	32	0.7
2	4,007,000	47	1.6	24	1.5	11	1.3	14	1.3	51	1.9	30	0.6
3	4,123,000	33	1.9	27	1.3	15	1.2	12	1.3	46	1.6	29	0.5
4	4,061,000	23	1.3	32	1.4	14	1.0	13	1.1	41	1.5	28	0.5
5	1,038,000	16	1.8	30	2.7	14	2.0	17	2.1	39	3.5	28	1.1

*In all instances, "se" indicates standard error. Standard errors less than .05 were rounded to 0.0.

NOTE: Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Figure 2.—Percentage distribution of preschool children under 6 years old according to the number of nonparental care arrangements, by age of child: 1995



NOTE: For supporting data see table A2.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

COMBINATIONS OF NONPARENTAL CARE ARRANGEMENTS

Children who had more than one nonparental care arrangement could have various combinations of arrangements.[7] Combinations of center-based programs plus other types of arrangements amounted to two-thirds of the combinations (65 percent) (table 2). One-third (33 percent) of preschoolers were in a combination of center-based care with relative care, while 15 percent were in a combination of center-based care plus family child care. Nine percent of children were in a combination of two center-based arrangements, and 8 percent were in a center-based program along with an in-home caregiver. In addition, other examples of combinations of arrangements in which children received care included a combination of relative care plus another type (52 percent), including the 33 percent in the center-relative combination; a combination of two different relative arrangements (17 percent); a combination of relative and in-home child care

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[7] The few children in three or more arrangements were excluded from this analysis.

Table 2.—Of preschool children under 6 years old enrolled in two or more nonparental care arrangements, percentage distribution according to arrangement combinations, by age: 1995

Arrangement combinations	Total		Age: 0–2 years		Age: 3–5 years	
	Percent	se	Percent	se	Percent	se
Total	100		100		100	
Center + relative	33	1.8	17	2.6	41	2.3
Center + in-home child care	8	1.0	3	1.2	10	1.5
Center + family child care	15	1.3	4	1.2	20	1.7
Center + center	9	1.5	2	0.8	13	2.1
Family child care + other informal[1]	14	1.7	31	3.6	6	1.4
Relative + relative	17	1.6	38	3.6	7	1.3
Relative + in-home child care	2	0.5	4	1.2	1	0.3
Two in-home child care arrangements	1	0.4	2	0.8	1	0.4
Number of children	2,246,000		723,000		1,523,000	

[1] "Other" in this combination includes a second family child care program, an in-home child care arrangement, or a relative care arrangement.

NOTE: Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

arrangements (2 percent); family child care combinations, including the center-family child care combination (29 percent); a combination of family child care plus a second family child care arrangement, an in-home caregiver, or a relative (14 percent); and in-home child care combinations (11 percent), with 1 percent in the care of two different in-home caregivers.

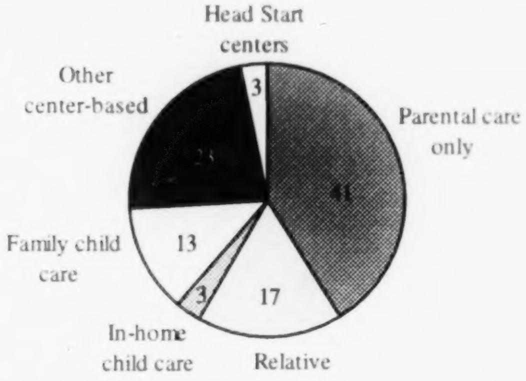
The combinations of arrangements differed for children under age 3 compared with 3- to 5-year-olds. Older preschoolers were more likely than their younger counterparts to be in a combination of center-based care and relative care, center-based care and family child care, or two centers. For example, 17 percent of children under age 3 were cared for in a combination of center-based and relative care, while 41 percent of 3- to 5-year-olds were in this combination. Furthermore, children under 3 were more often cared for in family child care and some other informal arrangement (31 percent) or in two relative care arrangements (38 percent) than were older children, 6 to 7 percent of whom were cared for such combinations.

Although 12 percent of children had more than one early care and education arrangement, the remainder of the report discusses only the child's primary nonparental care arrangement, defined as the arrangement in which the child spent the most hours in a given week.

TYPE OF PRIMARY NONPARENTAL CARE ARRANGEMENT

As noted above, in 1995, 41 percent of preschoolers aged 5 or under were cared for only by their parents; that is, they received no regular care or education from an in-home caregiver, relative, family child care provider, or formal center-based program (figure 3).[8] All other children were in some form of regular nonparental care: 23 percent in center-based care (not including Head Start programs), 3 percent in Head Start programs, 17 percent in relative care, 13 percent in family child care, and 3 percent in in-home child care.

Figure 3.—Percentage distribution of preschool children under 6 years old according to typ[illegible] of primary arrangement: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. For supporting data see table A3.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

There is considerable interest in comparing children's experiences in center-based programs with those in less formal arrangements. This interest stems, at least in part, from the research noted above in which middle class children enrolled in center-based programs scored higher in cognitive achievement than comparable children in other care arrangements

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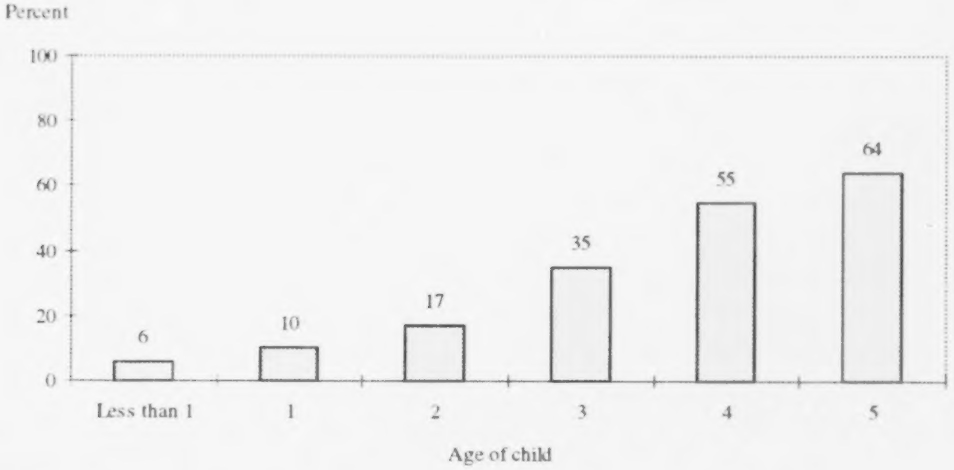
[8] For a full description of children in all child care arrangements, not just the primary arrangement, see the October 1995 *Statistics in Brief* "Child Care and Early Education Program Participation of Infants, Toddlers, and Preschoolers," table 1. The definition of "preschool" in that report differs slightly from the definition in the present one. Both reports include children who were either not enrolled in school or who were enrolled in nursery school, preschool, or Head Start. Children reported to be in ungraded/no equivalent programs were included in that report but have been excluded here. This results in a weighted total of 21,414,000 preschool children in the present study compared with 21,421,000 in the previous study. The present study also discusses arrangements that were used at least once a week; less frequent arrangements, of which there were few, were not counted as nonparental care arrangements.

(Clarke-Stewart 1987). Furthermore, although formal center-based programs have been found to be beneficial for older children, experts suggest that younger children may not receive the same benefits (Hayes et al. 1990; NICHD Early Child Care Research Network 1996a). In addition, center-based programs may be used infrequently for infants and toddlers because they are less likely to serve these young children. In 1990, 55 percent of center-based programs served infants, compared with 90 percent of family child care homes (Willer et al. 1991). Consistent with this finding, in 1995, center-based programs were the primary nonparental care arrangement for relatively few infants and toddlers and were more common among older children (figure 4). Whereas center-based care was the primary nonparental arrangement for fewer than 10 percent of infants, it was the primary arrangement for almost two out of three 5-year-olds.

Figure 4.—Percentage of preschool children under 6 years old whose primary arrangement was a center-based program, by age: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. For supporting data see table A3.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

For the most part, however, researchers have determined that it is the quality of the program and its appropriateness to the child's age more than the type of program that is important to the child's well-being (Hayes et al. 1990). Whereas young children need more individualized attention and care, older children need more learning opportunities and social contacts. If the former is available in a center and the latter from an in-home caregiver, then these types of programs would be appropriate for younger and older preschoolers, respectively. Because it is the characteristics of the primary nonparental arrangements in which children receive care rather than the type of care that is most crucial to children's development, the focus of the next section of the report is on these characteristics.

ATTRIBUTES OF CHILDREN'S PRIMARY NONPARENTAL CARE ARRANGEMENTS

Overall, for 68 percent of children, the primary nonparental care arrangement was paid for by their parents, and among families who paid for these arrangements, the average cost was $2.15 per hour (table 3). Children's primary arrangements had an average of 4.2 children per care provider. For 60 percent of children, the primary arrangement was less than 10 minutes from home; for 47 percent of children, this arrangement offered sick child care; for 58 percent, the primary care provider was educated or trained in areas related to child development; and for 94 percent, English was the primary language spoken with the child. Among children whose primary arrangements were center-based programs, 64 percent of parents reported that the program encouraged parental involvement, and, on average, parents reported that their children's program offered one health-related service, such as hearing, speech, or vision testing or a physical exam. All of these attributes varied among different types of nonparental care arrangements.

Cost of Primary Arrangement

The cost of children's primary arrangements varied with the type of care or education that served as the primary arrangement.[9] In-home child care ($3.02 per hour) and non-Head Start center-based programs ($2.39 per hour) were the most expensive arrangements on an hourly basis per child.[10] Children's parents paid more for them than for either family child care or relative care (table 3). Parental expenditures for relative care ($1.63 per hour) and family child care ($1.84 per hour) did not differ significantly.

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[9] Only regular care and education were included, not occasional babysitting or drop-in care.

[10] Parental payments were adjusted by the number of children being cared for together in the arrangement.

Table 3.—Of preschool children in nonparental care, percentage whose primary arrangements[1] were paid for; average cost per hour, child/staff ratio, and number of services provided in primary arrangements; and percentage whose primary arrangements had various characteristics, by type of primary arrangement: 1995

									Percent of preschool children whose primary arrangement had characteristic									
Primary care type			Average cost per hour[3]		Child/staff ratio		Number of services[2]		Less than 10-minute commute		Provides sick child care		Provider trained in child development		Parent involvement encouraged[2]		English spoken	
	Percent paying	se*		se	Average	se	Average	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	68	1.0	2.15	0.05	4.2	0.0	1.0	0.0	60	0.9	47	0.9	58	0.8	64	1.4	94	0.4
Total center-based	75	1.3	2.37	0.08	6.5	0.1	1.0	0.0	57	1.4	12	0.8	95	0.7	64	1.4	99	0.2
Head Start center	13	2.6	1.58	0.30	6.7	0.2	2.5	0.1	46	4.3	26	3.2	97	1.2	90	2.2	96	1.2
Non-Head Start center	84	1.2	2.39	0.08	6.5	0.1	0.7	0.0	58	1.5	10	0.7	95	0.8	60	1.5	99	0.2
Family child care	95	0.7	1.84	0.04	3.5	0.1	—	—	67	1.6	63	2.1	48	1.9	—	—	94	0.9
In-home child care	86	3.1	3.02	0.32	2.0	0.1	—	—	—	—	78	3.4	33	4.4	—	—	90	2.1
Relative	33	2.0	1.63	0.10	1.6	0.0	—	—	59	2.0	85	1.1	18	1.3	—	—	87	0.8

—Too few cases for a reliable estimate.

*In all instances, "se" indicates standard error. Standard errors less than .05 were rounded to 0.0.

[1] A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week.

[2] Available only for children enrolled in center-based programs.

[3] Average price paid among those who paid for the primary nonparental care arrangement.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Although few children's parents reported paying for Head Start as opposed to the other center-based programs, about 13 percent of children's parents did report paying for the program.[11] These parents may have been using wrap-around programs that provide care for the time either before the program begins or after the program ends. Also, some Head Start programs enroll both Head Start-eligible and -ineligible children; families of ineligible children pay for the program whereas the families of eligible children do not. In addition, some parents may have mistakenly reported that their child was in Head Start.[12] Children may be in blended Head Start and child care programs, or in programs that are called Head Start, but are not the federal Head Start program.

Child/Staff Ratio

Parents of children whose primary nonparental care arrangements were center-based programs reported higher child/staff ratios than did parents of children in any other type of primary arrangement (6.5 children per staff member in center-based programs, compared with 1.6 in relative care, 2.0 in in-home child care, and 3.5 in family child care). Furthermore, child/staff ratios for children in family child care were higher than those for children cared for by in-home caregivers, or relatives and parents of in-home caregivers reported higher child/staff ratios than did parents of children cared for by relatives. These parent-reported ratios for center-based care, family child care, in-home child care, and relative care are similar to those reported in 1990 by parents (Hofferth et al. 1991). The parent-reported center ratios are lower than those reported by center-based programs for preschool children 3 to 5 years old in 1990 (10:1) (Willer et al. 1991). However, parent-reported family child care ratios are similar to those reported by family child care providers (4:1) in 1990 (Willer et al. 1991). State requirements for child/staff ratios vary substantially by age of the child, with lower ratios required for younger children. There are systematic differences in ages of children, and, thus the ratio of children to staff, across these arrangements. Our purpose here is to provide a general picture of the different types of arrangements. Later analyses adjust for the age of the child.

Commute Time

Almost two-thirds of children whose primary arrangement was family child care lived within 10 minutes of their care provider, whereas the other types of care required longer travel times. Fifty-eight percent of children in a non-Head Start center, 59 percent of children in relative care, and 46 percent of children in a Head Start program lived within 10 minutes of their primary care provider.[13] Of course, there is no commute time for in-home care, which is provided in the child's home.

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[11] Those who paid for Head Start paid about the same for their child's program as did those who paid for non-Head-Start center-based programs. The apparent difference in cost per hour is not statistically significant.

[12] Although focus groups conducted before the data collection showed that families recognized the name Head Start and its mandate to serve low-income families (Collins et al. 1996), because of the proliferation of programs with similar names in the 1990s, some parents may have been confused.

Sick Child Care

Parents of children under the care of relatives and in-home providers were more likely than parents of children in all other types of nonparental care to report that sick child care was provided in their primary arrangement. Eighty-five percent of parents of children in relative care and 78 percent of parents of children in in-home care reported that the primary nonparental care provider cared for their children when they were ill, as did almost two-thirds of parents of children in family child care, 26 percent of parents of children in Head Start, and 10 percent of parents of children in non-Head-Start programs.

Training and Primary Language of Care Provider or Teacher

Children whose primary arrangements were center-based programs were the most likely among those receiving nonparental care to have a primary care provider who was educated or trained in child development, according to parents' reports.[14] Almost all such children were cared for by a trained provider (95 percent), and children in Head Start and other center-based programs were equally likely to have a trained provider. In contrast, 48 percent of children in family child care, 33 percent of children in in-home care, and 18 percent of children in relative care had a trained provider. In addition, although the vast majority of children (94 percent) were in programs in which English was spoken, those in all center-based programs were more likely than children in relative care to have had an English-speaking provider (99 percent compared with 87 percent).

Health Services and Parent Involvement

Parents of children in center-based programs were asked about the services their children's programs offered and whether the programs encouraged parents to become involved in their children's preschool education. Parents of children whose primary arrangements were Head Start programs reported that these programs provided two and a half services, on average, compared with an average of less than one service in other center-based programs. However, parents whose children were in non-center-based care programs were not asked this question since few such programs provide comparable services.

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[13] Relative care estimates include care provided in the child's home, which is coded as less than 10 minutes from the child's home.

[14] The NHES:95 did not ask providers how much training they had received; previous research (Ruopp et al. 1979) showed a consistent relationship between specialized training and child development regardless of the amount of training obtained. This study is likely to underestimate the effect of training rather than to overestimate it, since most states require and teachers/providers need to obtain only a bare minimum of specialized training for employment (Hofferth and Chaplin forthcoming). The NHES:95 survey did not ask the level of formal schooling completed by the provider.

Parents of children whose primary arrangements were Head Start programs were more likely than parents of children in other center-based programs to report that parental involvement was encouraged. Nine out of 10 parents of children in Head Start programs were encouraged to become involved, compared with 6 out of 10 in non-Head Start center-based programs.

SUMMARY

Hours in Nonparental Care

While a substantial proportion of children spent time in nonparental care and education in 1995, fewer than 3 out of 10 preschoolers spent 35 or more hours per week in regular full-time nonparental care. However, of those children in nonparental arrangements, about half were in full-time care. In particular, very young children (age 1) in nonparental care spent a substantial proportion of time in full-time care, averaging more than 30 hours per week, 4 hours more than 4- to 5-year-olds.

Number and Combinations of Nonparental Care and Education Arrangements

About 12 percent of all children are enrolled in more than one nonparental arrangement. The proportion of children in multiple arrangements is related to age, with 6 percent of infants but 25 percent of 5-year-old children in two or more arrangements. Of those in multiple arrangements, the combinations were strongly related to the child's age, with family child care and relative care combinations predominant for younger children and center-based combinations predominant for older preschool children.

Types of Primary Nonparental Care and Education Arrangements

Parents of younger preschoolers were more likely to report that their children's primary arrangements were informal in nature, while parents of older preschoolers were more likely to report that their children's arrangements were more formal center-based programs. These arrangements were consistent with the greater needs of very young children for personal attention and of older children for school preparation.

Attributes of Primary Nonparental Care Arrangements

Compared with children in center-based programs, children whose primary arrangements were informal—family child care, in-home child care, and relative care—had lower child/staff ratios and were more likely to have access to sick child care. However, children whose primary arrangements were formal center-based programs were more likely to have a trained care provider. The cost of children's primary arrangement was greater for children in in-home care and non-Head Start centers than for those in family child care, relative care, or Head Start programs. Finally, parents of children in family child care were most likely to report that the primary arrangement was close to home.

Chapter 3. What Factors Were Associated With The Types and Characteristics of the Child Care Arrangements That Parents Chose?

INTRODUCTION

This chapter examines how parents' and children's characteristics, including risk factors such as low household income, were associated with various aspects of children's nonparental care in 1995. It addresses such questions as whether families of children who had various risk factors were more likely than families of children without those factors to use nonparental care for more hours per week, to use more nonparental care arrangements, and to select care with characteristics that did not contribute to their children's development. In contrast to chapter 2, this chapter discusses only children who were in nonparental care in 1995. It first examines the relationships between child and family characteristics and the number of hours children spent in nonparental care. It then describes the relationships between family and child characteristics and both the number of nonparental care arrangements and the type of primary nonparental care arrangement children's parents choose. Finally, it examines how family and child characteristics and various characteristics of children's primary arrangements are related to one another.

Because many child and family characteristics are interrelated, such as low household income and low maternal education, it is important to hold one of these factors constant in order to determine the independent influence of the other characteristic. Therefore, the estimates presented here have been adjusted to control for a number of family and child characteristics that are likely to be associated with both the family or child characteristic and the child care characteristic being studied.

The family and child characteristics used to adjust the estimates include the child's age, race–ethnicity, and disability status; the educational attainment and employment status of the child's mother and her age when she first gave birth; whether the home language was English; the number of people and number of parents who lived with the child; and household income.[15] Among these characteristics, the following were considered risk factors in these analyses: having a disability; having a mother who had not received a high school diploma or who had given birth as a teenager; living in a home where the primary language was not English; living with only one parent; living in a large household; and living in a low-income household.

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[15] See the technical appendix B for the definitions of these variables.

Continuous Variables

The statistical procedures that allow researchers to take other characteristics into account when estimating how one factor affects another sometimes require that relationships among factors be discussed in terms of different kinds of statistics. For example, in this report, child care characteristics that take on a wide range of values, such as the number of hours children spent in nonparental care, are discussed simply in terms of the average number of hours that different kinds of children spent in nonparental care, taking other child and family characteristics into account.

Categorical Variables

Other characteristics of child care take on only a few values, such as the number of nonparental care arrangements in which a child received care. When assessing relationships involving these factors, the statistics that allow researchers to consider confounding factors discuss those relationships in terms of odds ratios. For example, this report has presented the percentages of children who were cared for only by their parents (no nonparental care), who were in one nonparental care arrangement, and who were in more than one nonparental care arrangement. This characteristic, the number of nonparental care arrangements, could also have been discussed in terms of odds rather than percentages: the odds that a child was in more than one nonparental care arrangement as opposed to being in one.[16]

The following illustrates the difference between these methods of discussing how children's age was related to the number of nonparental arrangements in which they received care. In terms of percentages, whereas 6 percent of infants were in two or more nonparental care arrangements, 25 percent of 5-year-olds were in multiple arrangements, making infants 76 percent {100[1.00 - (6 / 25)]} less likely than 5-year-olds to be in multiple arrangements (table 4). In terms of odds, the odds of an infant being in two or more nonparental care arrangements were 0.06, and the odds of a 5-year-old being in multiple arrangements were 0.33.[17] To compare the odds of the two groups, one computes the ratio of the odds of one group to the odds of the other group: 0.06 / 0.33 = 0.18. In other words, one might say that, in terms of odds, infants were 82 percent [100(1.00 - 0.18)] less likely than 5-year-olds to be in multiple arrangements. In the remainder of this report, many of the relationships between the characteristics of children and their families and the care they received are discussed in terms of these odds ratios—that is, the relative percentage of the odds of children's care having certain characteristics that are associated with socioeconomic and demographic differences among children and families.

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[16] See appendix B for more description of the analytical methods.

[17] These odds were computed as follows: odds for infants = 6 / (100 - 6) = 6 / 94 = 0.06; odds for 5-year-olds = 25 / (100 - 25) = 25 / 75 = 0.33.

Table 4.—Percentage distribution of preschool children under 6 years old according to number of nonparental care arrangements, by age: 1995

Age	Number of children	Number of nonparental care arrangements					
		None		One		Two or more	
		Percent	se	Percent	se	Percent	se
Total	21,414,000	41	0.9	47	0.8	12	0.4
Less than 1	4,158,000	56	1.6	38	1.6	6	0.9
1	4,027,000	51	1.7	42	1.7	7	0.9
2	4,007,000	47	1.6	46	1.5	7	0.8
3	4,123,000	33	1.9	52	1.8	15	1.0
4	4,061,000	23	1.3	55	1.4	22	1.1
5	1,038,000	16	1.8	59	2.6	25	2.5

NOTE: Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

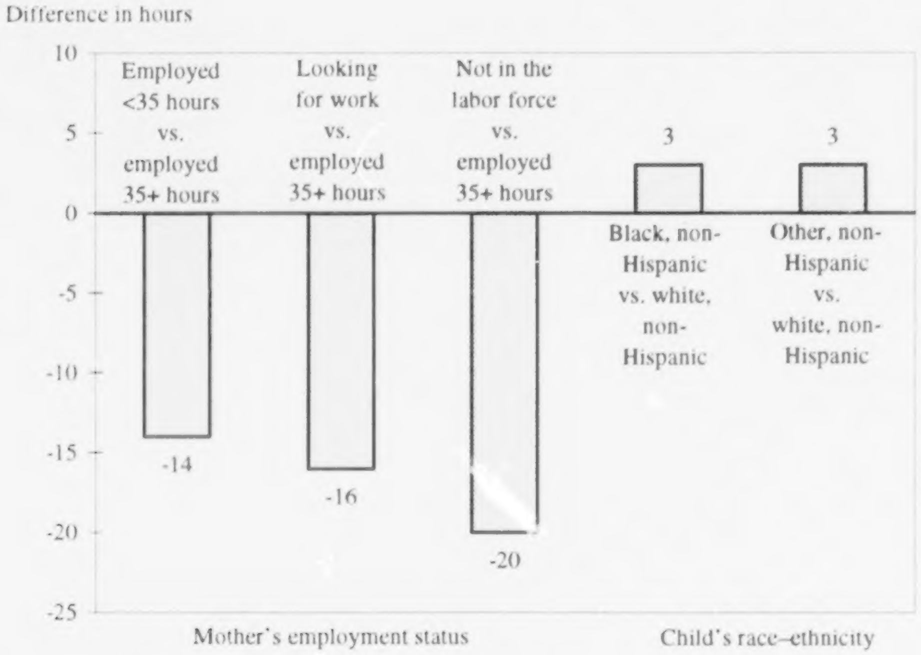
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

NUMBER OF HOURS IN NONPARENTAL CARE

Most likely to be in nonparental care are children with a full-time working mother, a single mother, a mother without a high school diploma, a mother who was under age 18 when she first gave birth, and ethnic minority children other than Hispanics. Children of mothers employed full time spent about 38 hours in early education and care, on average (table A1), whereas children of mothers who worked part time spent 14 fewer hours per week in nonparental care (figure 5a). In addition, compared with children of full-time working mothers, children of mothers looking for work spent 16 fewer hours in nonparental care, and children of mothers not in the work force spent 20 fewer hours, with other characteristics controlled (figure 5a). Race–ethnicity was also associated with greater use of nonparental care, controlling for other child and family characteristics: black, non-Hispanic children and those from other non-Hispanic racial–ethnic groups spent about 3 more hours per week in nonparental care than did white non-Hispanic children (figure 5a).

Children with a number of characteristics associated with school failure spent more time than other children in nonparental care. For instance, children living with a single parent spent 7 more hours per week in care than those living with two parents (figure 5b). Children of mothers who were 18 years old or older when they first gave birth spent 4 to 5 fewer hours in care than children of mothers who were under age 18 when they first gave birth.

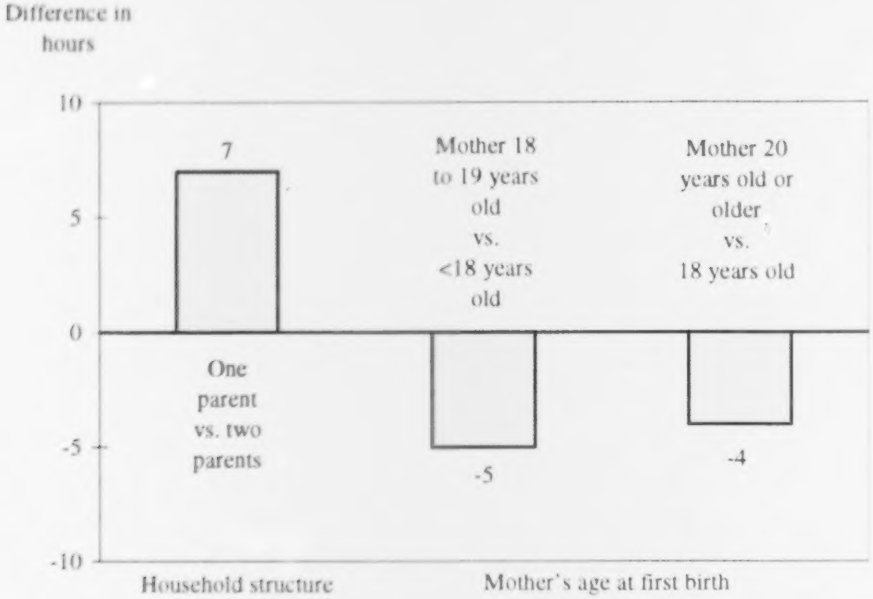
Figure 5a.—Adjusted difference in the number of hours preschool children under 6 years old spent in nonparental care, by mother's employment status and race–ethnicity: 1995



NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; region and urbanicity of residence; mother's educational attainment; household income, structure and size; home language; child's disability status; and mother's age at first birth. For supporting data see table A4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Figure 5b.—Adjusted difference in the number of hours per week preschool children under 6 years old spent in nonparental care, by household structure and mother's age at first birth: 1995

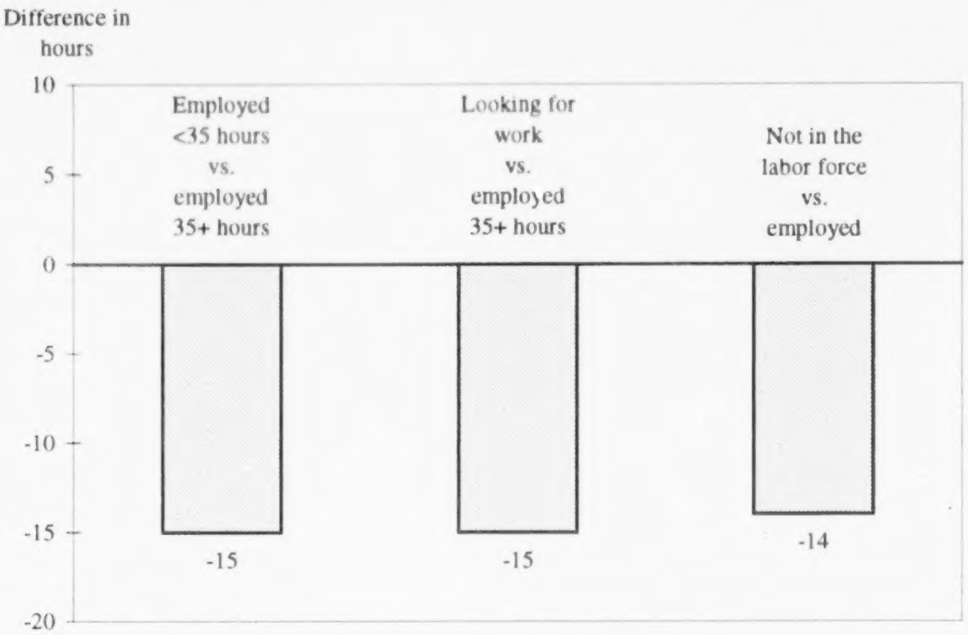


NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; mother's employment status; region and urbanicity of residence; mother's educational attainment; household income and size; home language; and child's disability status. For supporting data see table A4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Because the number of hours that infants (children younger than age 1) spend in nonparental care has important implications for a child's development, this analysis examined the relationships between child and family characteristics and the number of hours that infants spent in nonparental care arrangements. Again, infants whose mothers worked less than full time or were not working, spent significantly less time in nonparental care than did those whose mothers worked full time (figure 6a). However, in contrast to the relationships between race–ethnicity and the number of hours that all preschoolers spent in nonparental care discussed previously, Hispanic infants spent about 3 fewer hours per week in nonparental care than white non-Hispanic infants (figure 6b).

Figure 6a.—Adjusted difference in the number of hours per week infants spent in nonparental care, by mother's employment status: 1995



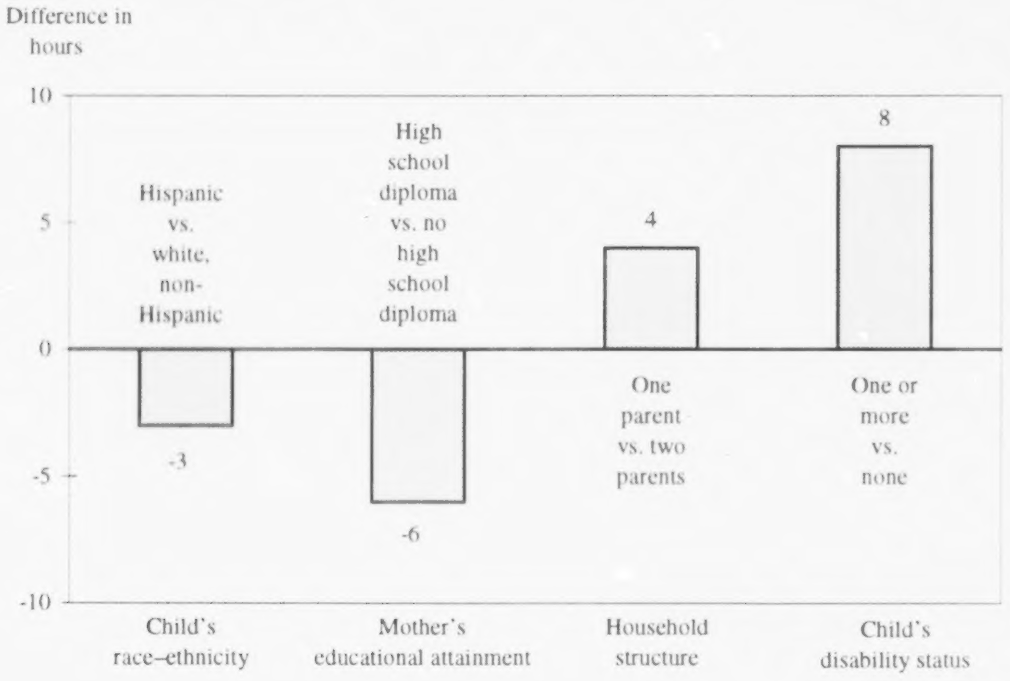
NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; region and urbanicity of residence; mother's educational attainment; household income, structure, and size; home language; child's disability status; and mother's age at first birth. For supporting data see table A4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

In addition, three risk factors were associated with infants spending more time in nonparental care: the level of maternal education, household structure, and children's disability status. Infants whose mothers had a high school diploma but no postsecondary education spent almost 6 fewer hours per week in nonparental care than infants whose mothers did not have a high school diploma. Similar to the pattern among all preschoolers, infants living with a single parent spent 4 more hours per week in care than those living with two parents. Infants with a disability spent almost 8 more hours per week in care than infants without a disability.

Overall, the results suggest that maternal employment, race–ethnicity, and number of parents were consistently associated with the amount of time a child spent in nonparental care across age groups. However, infants at greater risk—including children of single parents, children whose mothers did not have high school diplomas, and children with a disability—spent more hours per week in care. One explanation for this may be that many of these children's mothers were enrolled in programs to assist them in completing their schooling, with child care provided on-site. Alternatively, they may have been in training programs to become economically self-sufficient, making them eligible for child care subsidies, since it is unlikely that they would be able to afford early education and care programs without assistance. Furthermore, infants with a disability may have spent more hours in nonparental care, on average, because school systems are required to identify and serve preschool children with disabilities.

Figure 6b.—Adjusted difference in the number of hours per week infants spent in nonparental care, by selected child and family characteristics: 1995



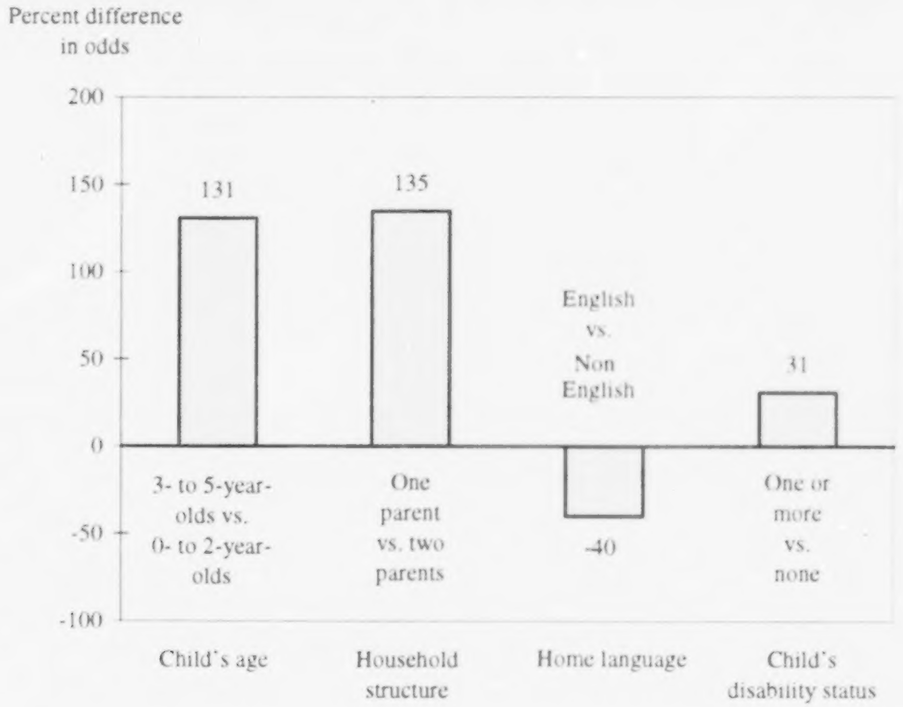
NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; mother's employment status; region and urbanicity of residence; household income and size; home language; and mother's age at first birth. For supporting data see table A4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

NUMBER OF NONPARENTAL CARE ARRANGEMENTS

Consistent with results reported earlier, 3- to 5-year-olds were 131 percent more likely than children under age 3 to be enrolled in two or more arrangements as opposed to one nonparental arrangement, controlling for a number of child and family characteristics (figure 7a).[18] Children with various risk factors were also more likely than children without these characteristics to be in multiple arrangements rather than only one. Compared with children who lived with two parents,

Figure 7a.—Adjusted percent difference in the odds that a preschool child under 6 years old was cared for in two or more nonparental care arrangements versus one, by child and family characteristics: 1995



NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for race–ethnicity; mother's employment status; region and urbanicity of residence; mother's educational attainment; household income and size; and mother's age at first birth. For supporting data see table A5.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

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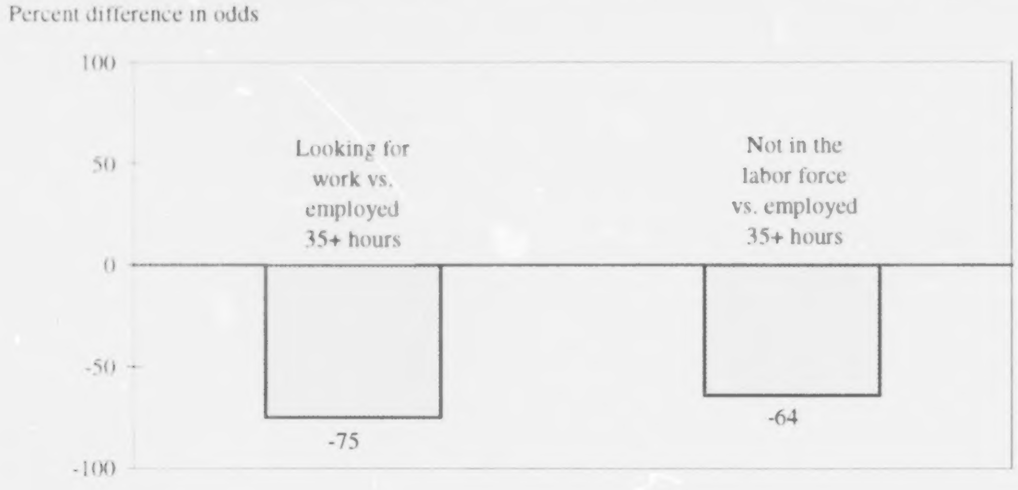
[18] Child and family characteristics that were statistically controlled include children's race-ethnicity, maternal employment, region, urban residence, maternal education, household structure, household income, household size, home language, children's disabling condition, and maternal age at first birth.

children who lived with a single parent were 135 percent more likely to be enrolled in multiple arrangements. Finally, children with a disability were 31 percent more likely than nondisabled children to be in multiple arrangements as opposed to one arrangement. However, children in homes where English was the primary language were 40 percent less likely than children in non-English-speaking homes to be in multiple arrangements.

Maternal employment was also linked to the number of arrangements. Children were less likely to be in multiple arrangements if their mothers were not employed (that is, either looking for work or not in labor force) (figure 7b). Some research suggests that multiple arrangements may provide mothers with more flexibility in choosing arrangements and schedules, than would a single arrangement (Hofferth and Collins 1996). In addition, parents with multiple arrangements may be less likely to have to leave their jobs when one child care arrangement fails, because they have a back-up (Hofferth and Collins 1996). Alternatively, mothers may want their children to have a group experience, but feel they are not ready for a full-day program; consequently, combining a nursery school program with in-home child care or family child care may be an ideal option for them.

Figure 7b.—Adjusted percent difference in the odds that a preschool child under 6 years old was cared for in two or more nonparental care arrangements versus one, by mother's employment status: 1995



NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; region and urbanicity of residence; mother's educational attainment; household income, structure, and size; home language; child's disability status; and mother's age at first birth. For supporting data see table A5.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

TYPE OF PRIMARY NONPARENTAL CARE ARRANGEMENT

As noted above, a child's primary arrangement could be one of several types, and the type of arrangement that parents chose for a given child varied among children and families. This section discusses how child and family characteristics were related to the odds that a child's primary arrangement was a Head Start program, family child care, in-home care, or relative care, as opposed to non-Head Start center-based care, adjusting for other child and family characteristics. Non-Head Start center-based programs were selected as the comparison category, first, because they are the single most commonly used form of nonparental care (figure 3), and second, because they are generally used as the comparison in most research of this type. Therefore, using Head Start programs as the comparison category in this analysis facilitates comparisons with results from other studies (e.g., Hofferth and Wissoker 1992).

Head Start

Head Start is a program for preschool children whose family income is below the federal poverty level or who have disabilities.[19] As a result of Head Start eligibility rules, family risk factors such as low-income and low-maternal education were closely tied to the odds that a child's primary arrangement was a Head Start program versus another center-based program. The odds that children from households with incomes of $35,001 to $50,000 were in Head Start were 87 percent lower than those of children from households with incomes of $15,000 or less (figure 8a). Similarly, the odds that children in households with incomes of more than $50,000 were in Head Start were 94 percent lower than those of children with household incomes of $15,000 or less. The odds that the primary arrangement of children whose mothers had some college was a Head Start program, versus another center-based program, were 61 percent less than those of children whose mothers had not completed high school. If their mothers had a college degree or some post-college education, the odds that children's primary arrangement was a Head Start program were 88 percent less than those of children whose mothers did not have a high school diploma.

Furthermore, race–ethnicity was independently related to children's enrollment in Head Start as their primary nonparental care arrangement. The odds of being enrolled in Head Start versus another center-based program were at least 200 percent greater for minority children than for white non-Hispanic children, after adjusting for family income and other factors. This may reflect the fact that the program originated in the 1960s when the War on Poverty, with its focus on minority families, was being conducted (U.S. Department of Labor 1965). Head Start may have greater acceptance and use among minorities. The association with race–ethnicity may also reflect the greater concentration of poverty in minority communities.

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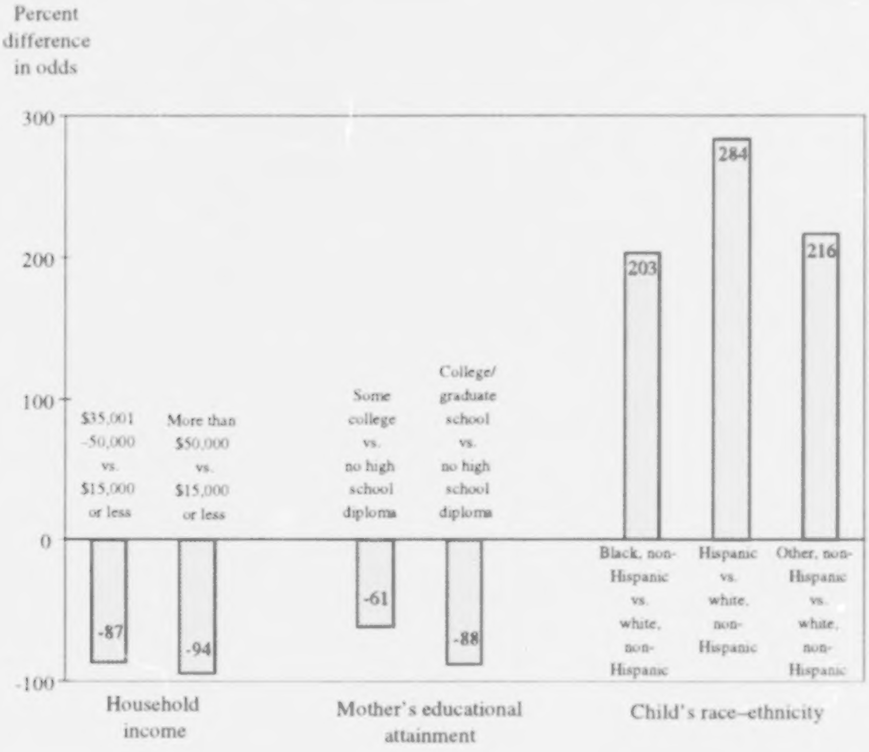
[19] Since eligibility is determined once, whereas family situations may change over the two years that their children are eligible, the incomes of Head Start families do not have to be below the poverty level.

Figure 8a.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was a Head Start program versus another center-based program, by child and family characteristics: 1995



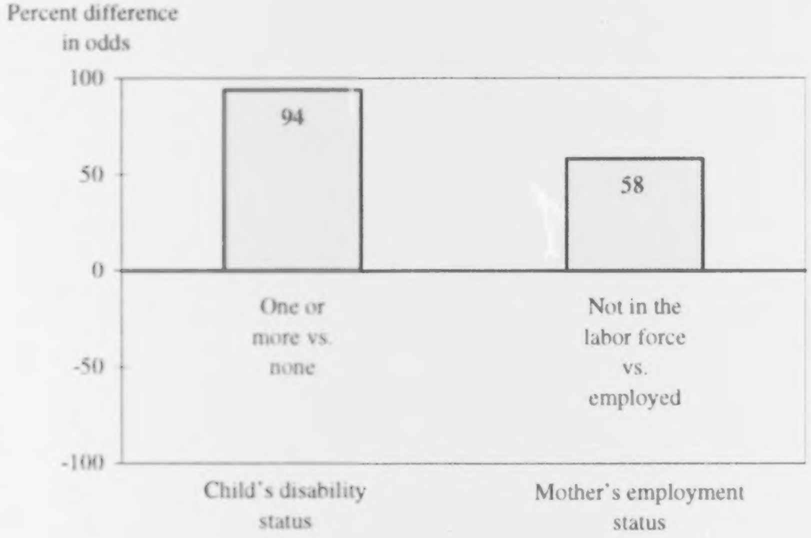
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; mother's employment; region and urbanicity of residence; household structure and size; home language; child's disability status; and mother's age at first birth. For supporting data see table A6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Children with disabilities are eligible for enrollment in Head Start regardless of their family income. In 1995, the odds that the primary arrangement of children with one or more disabling conditions was a Head Start program versus another center-based program were 94 percent greater than those of children without such conditions, holding other child and family characteristics constant (figure 8b).

Finally, consistent with concerns of policymakers that Head Start is not accessible to families with employment-related constraints (Advisory Committee on Head Start Quality and Expansion 1993), the odds that the primary arrangement of a child whose mother was not in the labor force was a Head Start program versus another center-based program were 58 percent greater than those of children whose mothers were employed full time, adjusting for household income, maternal education, and other child and family characteristics.

Figure 8b.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was a Head Start program versus another center-based program, by child and family characteristics: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; region and urbanicity of residence; mother's educational attainment; household income, structure, and size; home language; and mother's age at first birth. For supporting data see table A6.

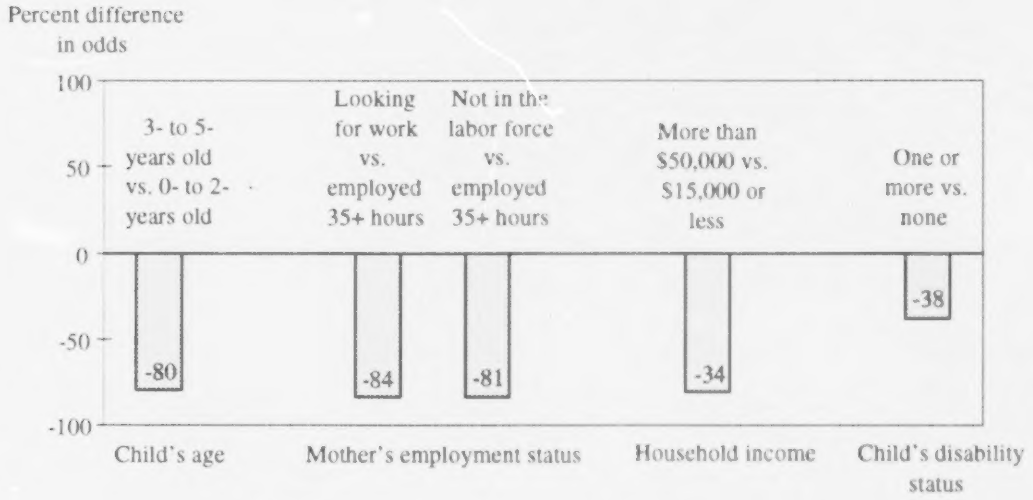
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Family Child Care

The odds that the primary arrangement of 3- to 5-year-old children was family child care versus a non-Head Start center-based program were 80 percent less than those of younger children (figure 9). This figure also indicates that family child care was used more often for children with employed mothers. The odds that the primary arrangement of children whose mothers were not employed was family child care versus a non-Head Start center-based program were about 80 percent less than those of children with full-time working mothers.

There was no consistent relationship between a child's being at greater risk of educational failure and the use of family child care versus a non-Head Start center-based program as the primary arrangement. However, family child care was used as the primary arrangement less often for children from high-income families than for children from low-income families. For

Figure 9.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was family child care versus a non-Head Start center-based program, by child and family characteristics: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for race–ethnicity; region and urbanicity of residence; mother's educational attainment; household structure and size; home language; and mother's age at first birth. For supporting data see table A6.

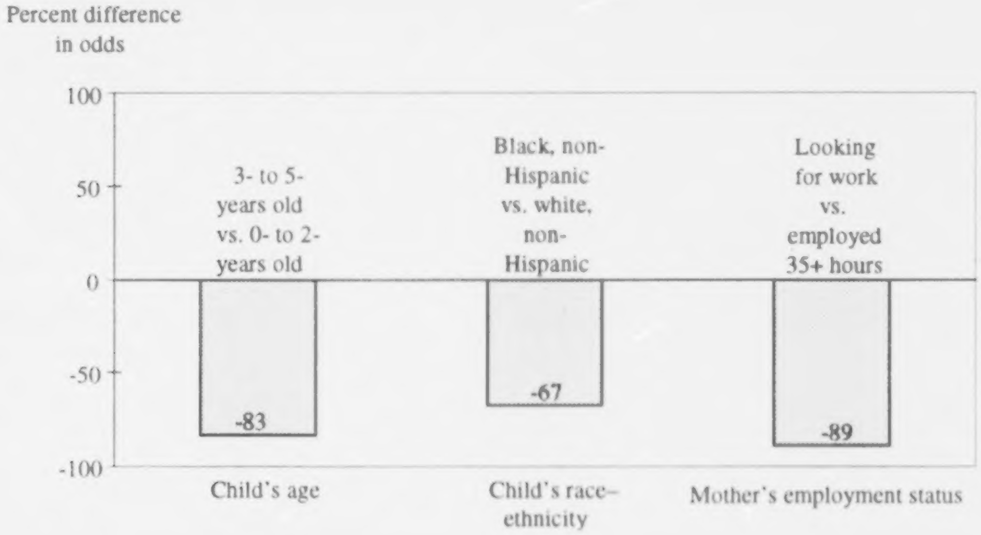
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

example, the odds that the primary arrangement was family child care versus a non-Head Start center-based program were 34 percent less for children with household incomes greater than $50,000, than for children with household incomes of $15,000 or less. Also, the odds that the primary arrangement was family child care versus a non-Head Start center-based program were 38 percent less for children with disabilities, than for nondisabled children. Since family child care providers are generally not trained to care for children with special needs, and may not receive any special subsidies for doing so, parents may prefer other care arrangements when they have a disabled child.

In-Home Child Care

Several child and family characteristics distinguished the use of in-home care as the primary arrangement as opposed to non-Head Start center-based care. The odds that in-home care versus non-Head Start center-based care was a child's primary arrangement were 83 percent less for 3- to 5-year-olds, than for children under age 3 (figure 10a). Also, black, non-Hispanic children

Figure 10a.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was in-home child care versus a non-Head Start center-based program, by child and family characteristics: 1995



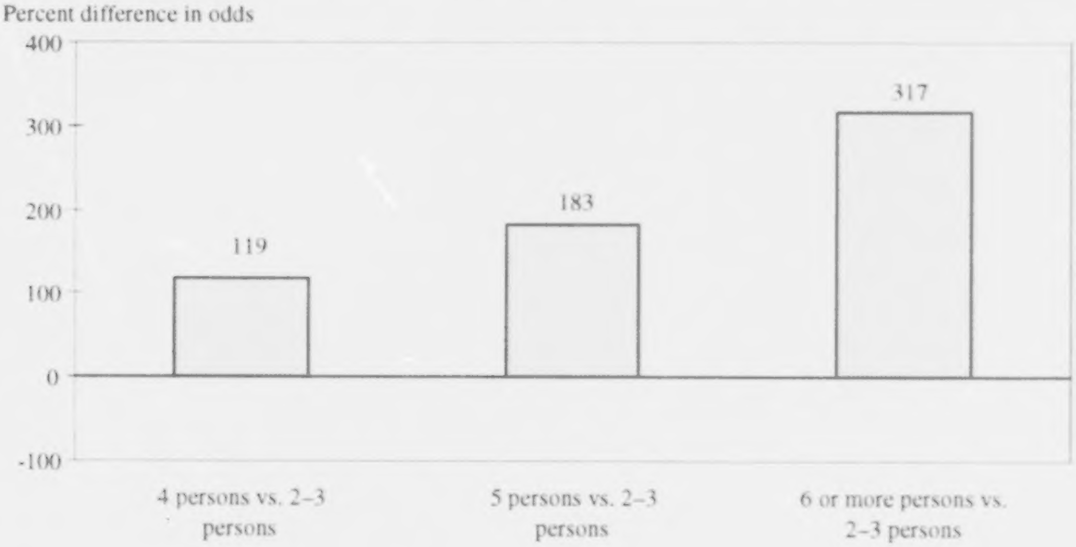
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for region and urbanicity of residence; mother's educational attainment; household income, structure, and size; home language; child's disability status; mother's age at first birth. For supporting data see table A6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

were 67 percent less likely than white, non-Hispanic children to be cared for by an in-home caregiver in their own homes than in a non-Head Start center. The mother's employment status also appears to have been important to families' likelihood of using in-home care as the primary care arrangement. As an example, the odds that the primary arrangement of children whose mothers were looking for work was in-home care versus a non-Head Start center-based program were 89 percent less than those of children whose mothers were employed full time.

In general, children at greater risk of school failure were as likely as children at lower risk to be in in-home care versus non-Head Start center-based care, controlling for other child and family characteristics. However, the odds that a child's primary arrangement was in-home care versus a non-Head Start center were greater for children in larger households than for those in smaller ones (figure 10b). This may be because in-home care may be both more efficient and more cost-effective than center care when several children in the family need care, which is often the case in larger households compared with smaller ones.

Figure 10b.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was in-home child care versus a non-Head Start center-based program, by householder size: 1995



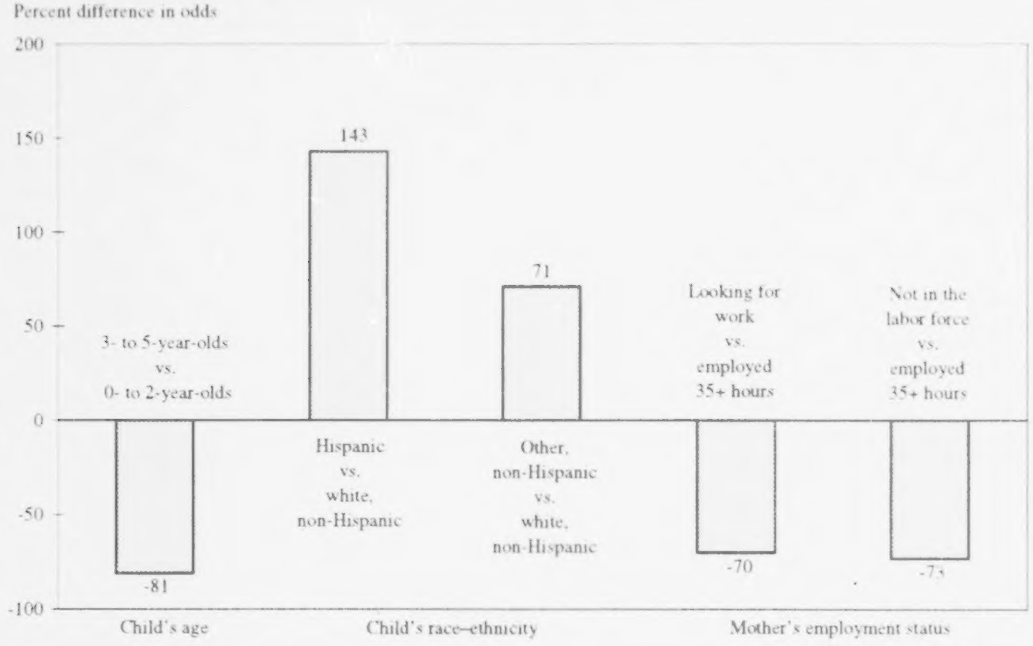
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth. For supporting data see appendix table 6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Relative Care

Also consistent with previous findings, the odds that relative care as opposed to a non-Head Start center program was the primary arrangement were 81 percent less for older preschoolers than for younger ones (figure 11a). In addition, these odds were greater for Hispanic children (143 percent) and children who were neither black nor Hispanic, but could have been Native American, Asian, or of another race–ethnicity (71 percent), than for non-Hispanic white children. Choosing relative care over non-Head Start center-based care as the primary arrangement was also associated with the employment status of mothers. The odds that a child's primary arrangement was relative care as opposed to a non-Head Start child care center were 70 to 73 percent less for children whose mothers were not employed (either looking for work or not in the labor force) than for children whose mothers were employed full time.

Figure 11a.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was relative care versus a non-Head Start center-based program, by child and family characteristics: 1995

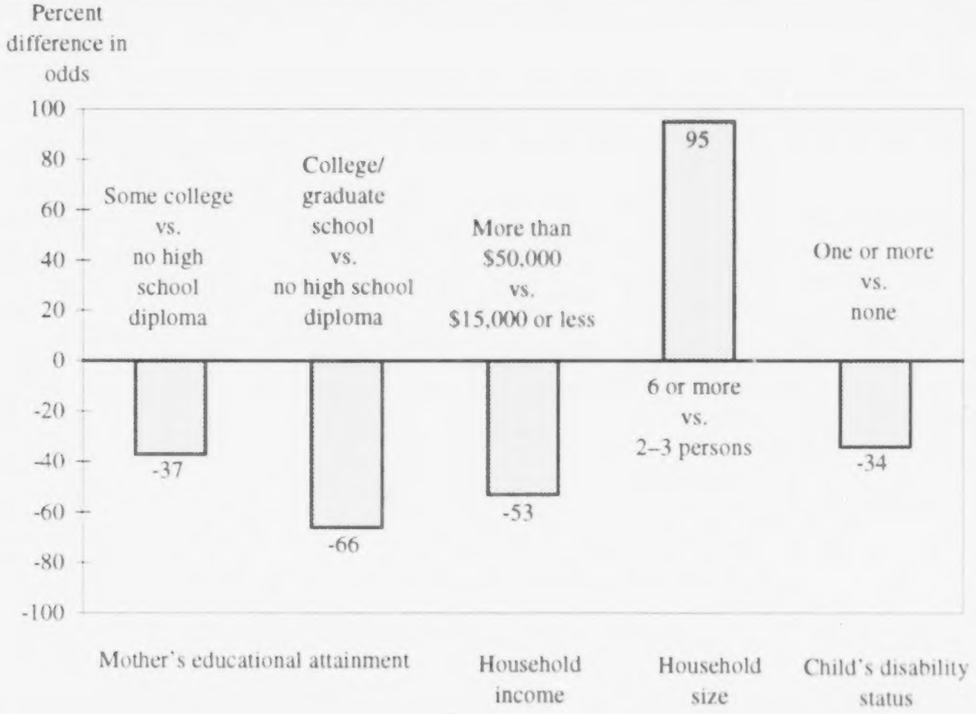


NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth. For supporting data see appendix table 6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Controlling for other child and family characteristics, the odds that a child's primary arrangement was relative care versus non-Head Start center-based care were greater for children at greater risk of school failure due to low income, large family size, and low maternal education than for other children. The odds that children from families with incomes of more than $50,000 were in relative care versus non-Head Start center-based care were 53 percent less than those of children from families with incomes of $15,000 or less (figure 11b). Moreover, relative care versus non-Head Start center-based care was less often the primary arrangement for children whose mothers had attended college than it was for children of mothers without a high school diploma.

Figure 11b.—Adjusted percent difference in the odds that the primary arrangement of a preschool child under 6 years old was relative care versus a non-Head Start center-based program, by child and family characteristics: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth. For supporting data see appendix table 6.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Finally, household size was also related to the type of primary arrangement. The odds that children from families of six or more persons were in relative care most of the time they were in nonparental care as opposed to non-Head Start centers, were 95 percent greater than these odds for children from a two- to three-person household. The fact that large households used relative care may reflect the greater availability of potential caregivers in such households, as well as their familial orientation and care preferences.

As with family child care, however, disability status was associated with lower odds of the primary arrangement being relative care versus non-Head Start center-based care. For instance, children with disabilities were 34 percent less likely than those with no disability to be in relative care rather than non-Head Start centers most of the time they were in nonparental care (figure 11b). The fact that children with disabilities were less likely to be in relative care versus non-Head Start center care probably reflects their greater probability of participation in special programs that provide early care and education at a reduced cost. It may also reflect lack of training on the part of relatives to provide such care.

Summary

The results clarify where children spend most of their nonparental child care and education time and compare children with characteristics associated with greater and lesser risk of school failure. High-risk children are more likely than lower-risk children to spend most of their time in Head Start programs and in relative care, versus other center-based programs. Within this group of high-risk children, however, the findings are somewhat different for children with disabilities. They are more likely than lower-risk children to spend most of their nonparental care time in Head Start programs and in other center-based programs, compared with family child care or relative care. Public support for the early care and education of such children provides an incentive to identify them at an early age and to enroll them in appropriate programs.

The other important characteristic consistently associated with variation in the type of primary nonparental care arrangement chosen was the mother's employment status. Children whose mothers were employed full time were more likely than children whose mothers were not employed to spend most of their nonparental care time in in-home care, family child care, and relative care as opposed to non-Head Start center care. Finally, adjusting for other factors, children whose mothers were employed were much less likely to be enrolled in Head Start than in a non-Head Start center-based program. This is consistent with other research showing lower enrollment rates in Head Start of eligible children of employed compared with nonemployed mothers (Hofferth 1994).

As noted above, it is the characteristics of children's nonparental care rather than the type of care that is likely to relate to their ability to succeed in school. Therefore, although the type of care that served as children's primary arrangement varied among children, it is also important to examine how the characteristics of that care varied with the characteristics of children and their families, the topic of the next section.

ATTRIBUTES OF CHILDREN'S PRIMARY NONPARENTAL CARE ARRANGEMENTS

This section of the report focuses on how the attributes of children's primary arrangements varied with child and family characteristics. The care attributes discussed here include the cost, child/staff ratio, number of services available, availability of sick child care, commute time between home and care, whether the care provider or teacher had child development training, whether parent involvement in the child care program was encouraged, and whether the care provider or teacher spoke English. Tables 5 to 12 present statistics that describe how various child and family characteristics are related to one of these attributes of children's primary arrangement, controlling for other child and family characteristics and the type of care that was the primary arrangement.[20]

These analyses control for the type of care as well as for various child and family characteristics, because many of these attributes are strongly associated with some types of care and not with others. Thus, in many instances, when parents choose a type of care, they are choosing a set of attributes. For example, compared with other types of child care, center-based programs tend to have higher child/staff ratios and a greater likelihood of trained providers, and are less likely to provide sick child care (table 3). Therefore, when parents choose a center-based program, they are more likely to get all of these characteristics even if, for instance, they would prefer to have lower child/staff ratios and sick child care. Because characteristics of care arrangements are often bundled in this way, in order to assess the relationship between a child or family characteristic and a given characteristic of a child care arrangement, it is necessary to take the type of care into account. Otherwise, any association between a child or family characteristic and a child care attribute might be a mere artifact of the type of care chosen and its association with the child/family characteristic. Therefore, the question becomes, controlling for the type of care they choose, are some families more likely than others to obtain arrangements with these attributes?

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[20] The analytic procedure used was discussed in the introduction to chapter 3. Ordinary least squares regression was used when the dependent variable was continuous; logistic regression was used when the dependent variable was dichotomous; and multinomial logistic regression was used when the dependent variable consisted of several categories.

Table 5.—Average difference in parental expenditures for children's primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Average difference in dollars per hour	se
Age		
2 or younger	reference group	
3–5	-0.19*	0.09
Race–ethnicity		
White, non-Hispanic	reference group	
Black, non-Hispanic	-0.18	0.09
Hispanic	-0.09	0.10
Other, non-Hispanic	-0.34*	0.12
Mother's employment status		
35 hours or more per week	reference group	
Less than 35 hours per week	0.19*	0.09
Looking for work	0.06	0.13
Not in the labor force	0.24*	0.12
Mother's educational attainment		
Less than high school	reference group	
High school	-0.02	0.09
Some college	0.24	0.12
College/graduate school	0.32*	0.12
Household structure		
Two parents	reference group	
One parent	-0.15	0.12
Household income		
$15,000 or less	reference group	
$15,001–25,000	-0.04	0.15
$25,001–35,000	0.13	0.17
$35,001–50,000	0.12	0.18
More than $50,000	0.58*	0.19
Household size		
2–3 persons	reference group	
4 persons	-0.03	0.09
5 persons	-0.05	0.12
6 or more persons	-0.23*	0.11
Home language		
English	reference group	
Not English	-0.15	0.10
Disabling condition		
None	reference group	
One or more	-0.31*	0.08

Table 5.—Average difference in parental expenditures for children's primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995—Continued

Characteristics	Average difference in dollars per hour	se
Mother's age at first birth		
Less than 18	reference group	
18–19	0.20	0.12
20 or older	0.18*	0.08
Primary arrangement type		
Head Start center	-1.20*	0.10
Non-Head Start center	reference group	
Family child care	-0.28*	0.10
In-home child care	0.39	0.29
Relative	-1.23*	0.10

*Coefficient significantly different from 0, $p < .05$.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis and whose parents paid for that care arrangement or program. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Expenditures on Care

A number of child and family characteristics, including the child's age, the mother's employment status, and the type of primary care arrangement, as well as several risk factors, were associated with the cost of children's primary arrangements, among those who paid for care. Parents paid $.19 per hour less for the primary arrangements of older preschoolers than for those of younger preschoolers, controlling for other child and family characteristics (table 5).

The employment status of the mother was also a determinant of expenditures on care. For instance, mothers who worked fewer than 35 hours per week or who were not in the labor force paid more per hour for their children's primary arrangements than did mothers who were employed full time. Such mothers are likely to select part-day programs, which are expensive on a per-hour basis (Hofferth, Brayfield, Deich, and Holcomb 1991; Willer et al. 1991). In addition, full-day programs often charge more per hour for part-day children because they occupy a full-day slot. Finally, expenditures were lower for children whose primary arrangements were Head Start programs, family child care, and relative care, compared with non-Head Start center-based care.

Risk factors were also related to expenditures: the parents of children who scored lowest on a number of risk factors paid more per hour for their children's primary nonparental care than the parents of children at greatest risk of school failure. Adjusting for other child and family characteristics and the type of care chosen, mothers who had completed college or had some graduate education paid $.32 more per hour for their children's primary nonparental care than those who had not received a high school diploma. Parents with household incomes of more than $50,000 paid $.58 more per hour than those with incomes of $15,000 or less. In addition, mothers who were age 20 or older when they first gave birth paid $.18 more per hour for their children's primary nonparental care than those who were under age 18 at first birth, perhaps because the latter were more likely to receive public subsidies.

Similarly, parents of children who were at greatest risk of school failure on several risk factors paid less for their children's primary nonparental care than did parents whose children were at lowest risk. Households with six or more members paid less than those with two or three members, perhaps because some household members may provide care. Finally, parents of children with disabilities paid $.31 less per hour than did parents of children who were not disabled. Again, their children were probably more likely to participate in subsidized programs.

Child/Staff Ratio

Adjusting for other child and family characteristics, both children's age and their type of primary nonparental care were associated with the child/staff ratio in the child's primary arrangement (table 6). Independent of the type of primary arrangement, 3- to 5-year-olds were in programs with an average child/staff ratio that was higher by about 1.1 children than the average ratio for children under age 3. State child care regulations generally permit each staff member or care provider to care for larger groups of older children (Hayes et al. 1990). Moreover, the type of arrangement was associated with the child/staff ratio of the child's program independent of the child's age. Consistent with the bivariate relationship discussed above (Chapter 2), family child care, in-home child care, and relative care had smaller ratios of children per provider than center-based care.

Two risk factors were also associated with the child/staff ratio of the child's primary arrangement. Children from households with four persons and six or more persons had primary arrangements with child/staff ratios that were 0.30 and 0.58 children higher, respectively, than those of children from households with two to three persons. This might be because all children in a given family were often cared for together. In addition, compared with the primary arrangements of nondisabled children, the child/staff ratios of disabled children's arrangements were 0.37 children lower.

Number of Services

Consistent with earlier findings, the parents of children whose primary arrangement was a Head Start program reported that their child's program offered an average of 1.27 more health-related services than did the parents of children whose primary arrangement was another center-based program (table 7). Independent of program type, older children had access to about one-half more services, on average, than younger children, and black, non-Hispanic children had access to 0.26 more services than white, non-Hispanic children.

Children's risk of school failure was also associated with the availability of health-related services through their primary arrangements. Children whose mothers had completed at least some college and children who lived in households with incomes of more than $35,000 were in programs that offered fewer services than the programs of children whose mothers had not completed high school or whose households had incomes of $15,000 or less, respectively. These findings probably reflect disadvantaged children's greater access to Head Start and to subsidized non-Head Start center-based programs (Hofferth 1995). Alternatively, higher income parents may neither need nor seek programs with such services. The center-based primary arrangements of children whose home language was not English offered an average of 0.59 more services than did those of children whose home language was English. Children who had a disability also were in primary arrangements that offered more services than those of children who did not have a disability.

Availability of Sick Child Care

As with health-related services, the primary arrangements of children who were at greater risk of school failure were more likely than those of children at lower risk to offer sick child care. Children with household incomes of $35,001–$50,000 were 31 percent less likely than children whose family income was $15,000 or less to have access to sick child care (table 8). Similarly, children of mothers who were 20 or older when they first gave birth were 33 percent less likely than children whose mothers first gave birth before they were age 18 to have access to such care. One exception was the parents of children in the largest households (6 or more persons): they were less likely than the parents of children in two- to three-person households to report that their children's primary arrangement offered sick child care.

Table 6.—Average difference in child/staff ratio of children's primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Average difference in child/staff ratio	se
Age		
2 or younger	reference group	
3–5	1.10*	0.08
Race–ethnicity		
White, non-Hispanic	reference group	
Black, non-Hispanic	-0.22	0.12
Hispanic	-0.05	0.14
Other, non-Hispanic	-0.09	0.24
Mother's employment status		
35 hours or more per week	reference group	
Less than 35 hours per week	0.00	0.09
Looking for work	-0.06	0.19
Not in labor force	-0.01	0.12
Mother's educational attainment		
Less than high school	reference group	
High school	0.01	0.13
Some college	0.10	0.15
College/graduate school	0.20	0.17
Household structure		
Two parents	reference group	
One parent	0.06	0.11
Household income		
$15,000 or less	reference group	
$15,001–25,000	-0.13	0.14
$25,001–35,000	0.05	0.14
$35,001–50,000	-0.04	0.14
More than $50,000	0.17	0.14
Household size		
2–3 persons	reference group	
4 persons	0.30*	0.09
5 persons	0.05	0.11
6 or more persons	0.58*	0.18
Home language		
English	reference group	
Not English	0.27	0.29
Disabling condition		
None	reference group	
One or more	-0.37*	0.13

Table 6.—Average difference in child/staff ratio of children's primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995—Continued

Characteristics	Average difference in child/staff ratio	se
Mother's age at first birth		
Less than 18	reference group	
18–19	-0.17	0.16
20 or older	0.09	0.14
Primary arrangement type		
Head Start center	0.15	0.24
Non-Head Start center	reference group	
Family child care	-2.61*	0.11
In-home child care	-4.15*	0.13
Relative	-4.44*	0.11

*Coefficient significantly different from 0, $p < .05$.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

In addition to these risk factors, the mother's employment status and the type of primary arrangement were related to the availability of sick child care in the primary arrangement. Children with mothers not in the labor force were less likely than children of full-time employed mothers to have access to sick child care in their primary arrangements. Compared with children whose primary arrangements were non-Head Start center-based programs, children in all other care or education arrangements were more likely to have access to care when ill.

Commute Time

Having a short commute between home and their children's primary nonparental care arrangement can be an important feature for busy parents. As the statistics presented in table 9 indicate, having a primary arrangement that was located within 10 minutes from home was associated with children's race–ethnicity, some aspects of their mothers' educational attainment and employment status, and the type of primary arrangement. Black, non-Hispanic children and children of other, non-Hispanic racial–ethnic backgrounds were 35 percent less likely than white, non-Hispanic children to be in a primary arrangement that was less than 10 minutes from home (table 9). Children whose mothers had some college education were 48 percent more likely than

Table 7.—Average difference in the number of services offered by children's center-based primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Average difference in number of services	se
Age		
2 or younger	reference group	
3–5	0.48*	0.05
Race–ethnicity		
White, non-Hispanic	reference group	
Black, non-Hispanic	0.26*	0.11
Hispanic	0.08	0.12
Other, non-Hispanic	-0.12	0.13
Mother's employment status		
35 hours or more per week	reference group	
Less than 35 hours per week	0.08	0.07
Looking for work	0.01	0.14
Not in labor force	0.07	0.07
Mother's educational attainment		
Less than high school	reference group	
High school	-0.15	0.13
Some college	-0.31*	0.14
College/graduate school	-0.40*	0.14
Household structure		
Two parents	reference group	
One parent	-0.16	0.09
Household income		
$15,000 or less	reference group	
$15,001–25,000	-0.05	0.11
$25,001–35,000	-0.10	0.12
$35,001–50,000	-0.32*	0.11
More than 50,000	-0.21*	0.11
Household size		
2–3 persons	reference group	
4 persons	-0.12	0.07
5 persons	0.00	0.09
6 or more persons	-0.14	0.11
Home language		
English	reference group	
Not English	0.59*	0.17
Disabling condition		
None	reference group	
One or more	0.45*	0.09

Table 7.—Average difference in the number of services offered by children's center-based primary arrangements, adjusted for child and family characteristics and primary arrangement type: 1995 —Continued

Characteristics	Average difference in number of services	se
Mother's age at first birth		
Less than 18	reference group	
18–19	-0.07	0.16
20 or older	-0.10	0.14
Primary arrangement type		
Head Start center	1.27*	0.12
Non-Head Start center	reference group	

*Coefficient significantly different from 0, p <.05.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

children whose mothers had not earned a high school diploma to have a 10-minute commute to their primary arrangement. This same relationship did not hold for children of mothers who had completed college or attended graduate school, however. In addition, children whose mothers were not in the labor force were 28 percent more likely than children whose mothers worked full time to live within 10 minutes of their primary arrangement.[21] Finally, compared with children whose primary arrangement was a non-Head Start center-based program, children in Head Start were 36 percent less likely to live within 10 minutes of their primary arrangement, and children in family child care were 16 percent more likely to do so.

Training of Teacher or Care Provider

Hispanic race–ethnicity was related to whether the care provider or teacher in a child's primary arrangement had received training in child development. Hispanic children were 33 percent less likely than white, non-Hispanic children to be in a primary arrangement with a trained provider (table 10). The only risk factor associated with having a trained provider was whether children came from single- or two-parent families. For example, children in single-parent families

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[21] While parents appear to prefer a program close to their home, some may find a program close to their work to be convenient. Distance between work site and child care site was not obtained in the NHES:95.

Table 8.—Odds ratio that children's primary arrangements provided sick child care, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Odds ratio
Age	
2 or younger	reference group
3–5	1.02
Race–ethnicity	
White, non-Hispanic	reference group
Black, non-Hispanic	1.83*
Hispanic	0.96
Other, non-Hispanic	1.52
Mother's employment status	
35 hours or more per week	reference group
Less than 35 hours per week	1.02
Looking for work	0.83
Not in labor force	0.73*
Mother's educational attainment	
Less than high school	reference group
High school	0.85
Some college	1.05
College/graduate school	0.75
Household structure	
Two parents	reference group
One parent	1.15
Household income	
$15,000 or less	reference group
$15,001–25,000	1.05
$25,001–35,000	0.86
$35,001–50,000	0.69*
More than $50,000	0.73
Household size	
2–3 persons	reference group
4 persons	0.86
5 persons	0.87
6 or more persons	0.70*
Home language	
English	reference group
Not English	0.68
Disabling condition	
None	reference group
One or more	1.02
Mother's age at first birth	
Less than 18	reference group
18–19	1.08
20 or older	0.67*

Table 8.—Odds ratio that children's primary arrangements provided sick child care, adjusted for child and family characteristics and primary arrangement type: 1995—Continued

Characteristics	Odds ratio
Primary arrangement type	
Head Start center	2.27*
Non-Head Start center	reference group
Family child care	18.05*
In-home child care	48.45*
Relative	51.32*

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey 1995, Early Childhood Program Participation Component.

were 50 percent more likely than those in two-parent families to be in a primary arrangement that had a trained provider. This may result from such families being eligible for, and utilizing publicly funded programs in centers, and may also be due to the lack of the father's availability to provide informal care.

The type of care that served as the child's primary arrangement and the training of the care provider were strongly related. Parents whose children were in family child care settings or under the care of in-home providers or relatives as their primary arrangement were much less likely (95 to 99 percent) than parents of children cared for in non-Head Start centers to report that their children's care providers were trained in areas related to child development. Parents may be more likely to assume that providers in centers have received training and that other providers have not. One study comparing the reports of parents and providers about provider training found their reports to be similar (Willer et al. 1991). This suggests that parents were fairly well informed regarding the training of their children's care providers. While on average, parent and provider reports may be similar, this does not mean that parents can accurately report the training of their own child's care provider. Research has found that parents' report of the level of training of their own child's provider does not always correspond with that of the provider (Hofferth et al. 1994).

Table 9.—Odds ratio of living within 10 minutes of primary arrangement, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Odds ratio
Age	
2 or younger	reference group
3–5	1.19*
Race–ethnicity	
White, non-Hispanic	reference group
Black, non-Hispanic	0.65*
Hispanic	0.80
Other, non-Hispanic	0.65*
Mother's employment status	
35 hours or more per week	reference group
Less than 35 hours per week	0.91
Looking for work	0.92
Not in labor force	1.28*
Mother's educational attainment	
Less than high school	reference group
High school	1.33
Some college	1.48*
College/graduate school	1.17
Household structure	
Two parents	reference group
One parent	1.24
Household income	
$15,000 or less	reference group
$15,001–25,000	0.98
$25,001–35,000	1.04
$35,001–50,000	1.07
More than $50,000	1.11
Household size	
2–3 persons	reference group
4 persons	1.09
5 persons	0.98
6 or more persons	1.15
Home language	
English	reference group
Not English	1.10
Disabling condition	
None	reference group
One or more	0.90
Mother's age at first birth	
Less than 18	reference group
18–19	0.76
20 or older	0.83

Table 9.—Odds ratio of living within 10 minutes of primary arrangement, adjusted for child and family characteristics and primary arrangement type: 1995—Continued

Characteristics	Odds ratio
Primary arrangement type	
Head Start center	0.64*
Non-Head Start center	reference group
Family child care	1.16*
In-home child care	2.46
Relative	1.20

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Parental Involvement

Among children whose primary arrangements were center-based programs, older children and black, non-Hispanic children were more likely than younger and white, non-Hispanic children, respectively, to be in center-based primary arrangements in which parental involvement was encouraged (table 11). Children whose mothers were out of the work force were 91 percent more likely than children whose mothers worked full time to spend most of their nonparental care time in programs where parental involvement was encouraged. One risk factor was related to whether a child's center-based primary arrangement encouraged parental involvement: children in households of four persons were less likely than children from smaller households to be in a program encouraging parental involvement. Finally, children whose primary arrangements were Head Start programs were more likely than children whose primary arrangements were other center-based programs to encourage the involvement of parents.

Whether Primary Nonparental Care Provider Spoke English

The primary nonparental care providers of Hispanic children, children of other non-black, non-Hispanic racial–ethnic backgrounds, and children in a household whose primary language was not English, were much less likely to speak English with them than the care providers of white, non-Hispanic children and children in English-speaking households, respectively (table 12). These differences are likely to reflect parental preferences for a care provider with the same cultural background, particularly when their children are young. Also, these differences may reflect the fact that child care is local, and neighborhood institutions reflect the ethnic and language characteristics of their residents. In contrast, the primary care providers of black, non-Hispanic children were more likely than those of white, non-Hispanic children to speak English with them. Children who spent most of their nonparental care time with family child care providers, in-home caregivers, and relatives were significantly less likely than children in non-Head Start center-based programs to have a provider who spoke English with them.

Table 10.—Odds ratio of children's primary arrangements having trained providers, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Odds ratio
Age	
2 or younger	reference group
3–5	0.99
Race–ethnicity	
White, non-Hispanic	reference group
Black, non-Hispanic	1.08
Hispanic	0.67*
Other, non-Hispanic	0.89
Mother's employment status	
35 hours or more per week	reference group
Less than 35 hours per week	0.99
Looking for work	1.05
Not in labor force	1.31
Mother's educational attainment	
Less than high school	reference group
High school	1.32
Some college	1.07
College/graduate school	1.37
Household structure	
Two parents	reference group
One parent	1.50*
Household income	
$15,000 or less	reference group
$15,001–25,000	0.99
$25,001–35,000	1.38
$35,001–50,000	1.04
More than 50,000	1.38
Household size	
2–3 persons	reference group
4 persons	0.85
5 persons	0.97
6 or more persons	0.93

Table 10.—Odds ratio of children's primary arrangements having trained providers, adjusted for child and family characteristics and primary arrangement type: 1995—Continued

Characteristics	Odds ratio
Home language	
English	reference group
Not English	0.93
Disabling condition	
None	reference group
One or more	1.12
Mother's age at first birth	
Less than 18	reference group
18–19	1.31
20 or older	1.05
Primary arrangement type	
Head Start center	1.84
Non-Head Start center	reference group
Family child care	0.05*
In-home child care	0.03*
Relative	0.01*

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

SUMMARY

A few key family factors were consistently related to children's primary nonparental care arrangements and the attributes of those arrangements. Age of the child was consistently associated with arrangement attributes. For example, in programs used by parents of older versus younger children, the cost of care was lower, child/staff ratios higher, number of services greater, the distance smaller, and parental involvement more frequently encouraged. Other factors, such as maternal employment, were closely related to attributes such as commute time from home and the availability of sick child care. Moreover, the primary nonparental care providers of Hispanic children, children of other non-black, non-Hispanic racial–ethnic backgrounds, and children in a household whose primary language was not English were much less likely to speak English with them than the care providers of white, non-Hispanic children and children in English-speaking households, respectively. Hispanic parents were less likely than white, non-Hispanic parents to report that their provider was trained to care for children. Black, non-Hispanic parents were more

Table 11.—Odds ratio that children's primary center-based care arrangements encouraged parent involvement, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Odds ratio
Age	
2 or younger	reference group
3–5	1.37*
Race–ethnicity	
White, non-Hispanic	reference group
Black, non-Hispanic	2.11*
Hispanic	1.21
Other, non-Hispanic	0.92
Mother's employment status	
35 hours or more per week	reference group
Less than 35 hours per week	1.33
Looking for work	1.21
Not in labor force	1.91*
Mother's educational attainment	
Less than high school	reference group
High school	1.07
Some college	0.90
College/graduate school	1.24
Household structure	
Two parents	reference group
One parent	0.91
Household income	
$15,000 or less	reference group
$15,001–25,000	1.12
$25,001–35,000	0.91
$35,001–50,000	1.02
More than $50,000	1.06
Household size	
2–3 persons	reference group
4 persons	0.72*
5 persons	1.09
6 or more persons	0.82
Home language	
English	reference group
Not English	1.63
Disabling condition	
None	reference group
One or more	1.32
Mother's age at first birth	
Less than 18	reference group
18–19	1.17
20 or older	1.28

Table 11.—Odds ratio that children's primary center-based care arrangements encouraged parent involvement, adjusted for child and family characteristics and primary arrangement type: 1995 —Continued

Characteristics	Odds ratio
Primary arrangement type	
Head Start center	4.62*
Non-Head Start center	reference group

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

likely to report having access to more services, including sick child care, and to be encouraged to participate in their child's program, but were less likely to live within 10 minutes of the provider.

With the exception of the cost of care, this study revealed few income-related differences in the characteristics of children's primary nonparental care arrangements. Parents with household incomes of more than $50,000 did pay $0.58 more per hour for their children's primary arrangement than did lower-income parents. However, children of lower income parents were more likely to receive sick child care and received other services more than did children of higher income parents. Several other risk factors, such as having a disability, not speaking English at home, living in a large household, and having a mother who had not earned a high school diploma, were also associated with receiving more services. When considering these characteristics alone, children at greater risk of school failure received more services in their preschool programs than those at lower risk.

Table 12.—Odds ratio that provider in children's primary arrangements spoke English with the children most of the time, adjusted for child and family characteristics and primary arrangement type: 1995

Characteristics	Odds ratio
Age	
2 or younger	reference group
3–5	1.07
Race–ethnicity	
White, non-Hispanic	reference group
Black, non-Hispanic	2.49*
Hispanic	0.07*
Other, non-Hispanic	0.22*
Mother's employment status	
35 hours or more per week	reference group
Less than 35 hours per week	1.27
Looking for work	0.80
Not in labor force	0.92
Mother's educational attainment	
Less than high school	reference group
High school	1.37
Some college	0.87
College/graduate school	0.64
Household structure	
Two parents	reference group
One parent	1.22
Household income	
$15,000 or less	reference group
$15,001–25,000	1.57
$25,001–35,000	1.56
$35,001–50,000	1.23
More than $50,000	1.14
Household size	
2–3 persons	reference group
4 persons	0.92
5 persons	0.90
6 or more persons	0.90
Home language	
English	reference group
Not English	0.02*
Disabling condition	
None	reference group
One or more	0.89
Mother's age at first birth	
Less than 18	reference group
18–19	1.13
20 or older	1.13

Table 12.—Odds ratio that provider in children's primary arrangements spoke English with the children most of the time, adjusted for child and family characteristics and primary arrangement type: 1995 —Continued

Characteristics	Odds ratio
Primary arrangement type	
Head Start center	0.77
Non-Head Start center	reference group
Family child care	0.02*
In-home child care	0.01*
Relative	0.01*

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Chapter 4. What Were Parents' Sources of Information and Preferences Regarding Child Care Arrangements?

How do parents make decisions regarding the care and education that their young children receive? The information that parents obtain regarding the availability of various types of child care and the characteristics of those options influences their child care decisions. Furthermore, to the extent that different kinds of parents have access to more or less information, their decisions may differ. Therefore, this section first discusses parents' sources of information regarding their children's care arrangements.

Second, because parents' choices regarding their children's care arrangements are constrained by the cost and availability of care as well as their information about alternatives, children's care arrangements may not fully reflect what their parents would prefer. Therefore, in order to understand what parents preferred, it is necessary to examine directly how important a given child care characteristic was to parents when arranging for the care of their children. In particular, it is important to assess the relative importance to parents of child care characteristics that are likely to affect the child's development, as opposed to those that have more immediate impact on the parent (e.g., cost). Do parents' preferences vary with characteristics of their children and families? In order to address these questions, this section continues by presenting results related to parents' preferences for various attributes of child care arrangements.

PARENTS' INFORMATION REGARDING CHILD CARE

In order to determine how parents make their child care decisions, it is important to examine how parents obtain information about the availability, cost, and characteristics of arrangements for their children. Therefore, this section first discusses the sources of information—friends, employers, schools, churches, advertisements, agencies, referral services, and others—that parents turned to, in order to learn about early childhood education programs and child care arrangements. This section also discusses how parents differed in terms of the sources of information they used.

In addition to the sources of information mentioned above, parents may consider the cost of child care itself an indication of the quality of care, reasoning that more expensive care must be better for their children. This section, therefore, also examines whether parents would be justified in making this assumption—that is, whether some of the characteristics of child care relating to child development or parents' needs or convenience are associated with parents' reported expenditures for care.

Sources of Information About Child Care Alternatives

What sources of information about program availability and characteristics do parents have available to them? The parents of 59 percent of children reported that friends, neighbors, relatives, and coworkers were the source for learning about their child's primary nonparental care arrangement (table 13). Ten percent mentioned newspaper or yellow pages advertisements; 6 percent mentioned school; 5 percent mentioned a church or place of worship; 4 percent each mentioned an employer and a welfare or social service agency; and 2 percent mentioned a resource and referral service. In addition, 16 percent of children's parents' sources fell into the unspecified "other" category, which could include parents who already knew the care provider because another child had used the program, and sources such as reference materials, public bulletin boards/flyers, doctors, other professionals, and other non-profit organizations. Sources of information reported by parents differed somewhat by age of child, race–ethnicity, or maternal employment status. For instance, the parents of 4- and 5-year-old children were more likely than the parents of younger children to learn about the arrangement from school. Likewise, Hispanic parents were more likely than white or black, non-Hispanic parents to have learned about their children's programs from school. In households where mothers were employed, parents were more likely to learn about their child care arrangement from an employer than they were in households where mothers were not in the labor force.

The Relationship Between the Cost of Child Care and Its Quality

If the price of a child care program is associated with its quality, then parents may be able to use price to gauge a program's quality. Is there a link between the quality of child care programs and their cost? Figure 12 presents data on how expenditures for children's primary care arrangements differed among arrangements with various characteristics related to quality, controlling for child and family background characteristics, and the type of primary arrangement. These estimates indicate whether parents paid more for care arrangements with characteristics that have been associated with better outcomes for children.[22]

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[22] This standard economic technique, the hedonic price model, is used to determine the relative contribution of characteristics or features to the price of a product or service. Cost is not the same as income; rather, it is the fee or price of the good or service. As we see in child care, parents tend to pay the same amount for child care, regardless of their incomes (GAO 1997).

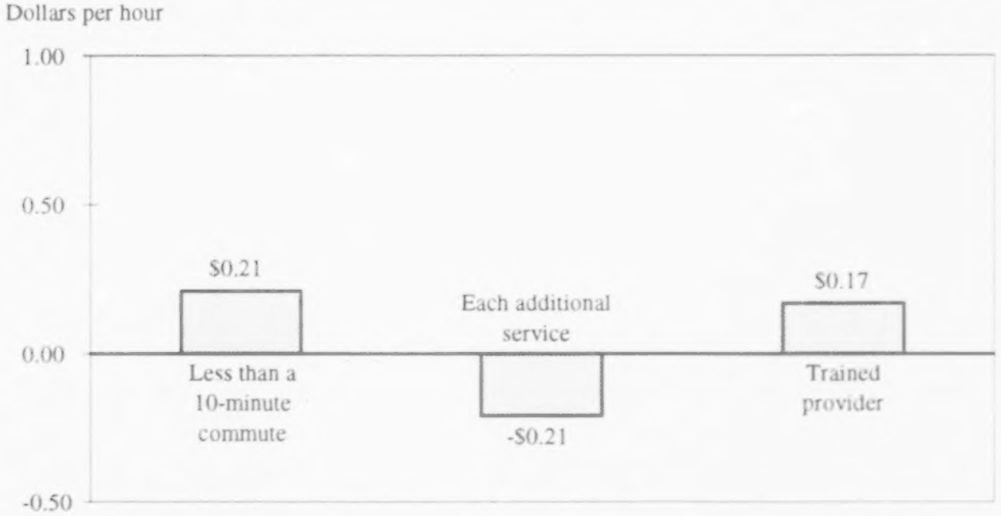
Table 13.—Of preschool children under 6 years old whose parents reported learning about their child's primary arrangement from various sources of information, by child and family characteristics: 1995

Characteristics	Number of children	Friends		Employer		School		Church		Advertisement		Agency		Referral service		Other	
		Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	9,050,000	59	1.1	4	0.4	6	0.5	5	0.4	10	0.7	4	0.4	2	0.3	16	0.9
Age																	
Less than 1	935,000	63	3.6	6	1.8	1	0.7	5	1.3	13	2.6	4	1.3	1	0.4	14	2.2
1	1,141,000	63	2.7	5	1.2	2	0.7	6	1.4	8	1.3	8	1.6	1	0.5	13	2.0
2	1,436,000	65	2.4	4	0.9	3	0.9	6	0.9	10	1.3	3	0.7	1	0.3	14	1.7
3	2,091,000	60	2.0	4	0.8	5	0.9	6	0.9	10	1.4	3	0.8	3	0.7	15	1.5
4	2,667,000	55	1.8	3	0.5	10	1.1	4	0.7	11	1.1	3	0.6	2	0.6	18	2.0
5	780,000	53	2.7	5	1.3	12	2.0	5	1.4	10	1.5	1	0.7	2	0.9	17	2.5
Race–ethnicity																	
White, non-Hispanic	6,552,000	61	1.2	4	0.5	5	0.5	5	0.6	10	0.8	4	0.4	2	0.3	15	1.0
Black, non-Hispanic	1,327,000	54	3.1	2	1.0	6	1.4	6	1.3	9	2.3	4	1.1	2	0.6	20	2.2
Hispanic	724,000	59	2.9	4	0.9	12	1.8	4	1.0	8	1.4	2	0.7	3	1.2	14	1.8
Other, non-Hispanic	446,000	62	5.0	5	2.1	8	2.4	3	1.3	12	3.4	4	1.5	2	1.0	14	3.0
Mother's employment status																	
Currently employed	6,216,000	62	1.2	5	0.6	4	0.4	5	0.6	11	0.9	4	0.5	2	0.3	13	1.1
35 hours or more per week	4,223,000	62	1.5	6	0.7	3	0.5	4	0.6	10	1.1	5	0.5	2	0.3	15	1.3
Less than 35 hours per week	1,992,000	63	2.0	5	0.7	6	1.0	7	1.0	12	1.6	4	1.0	1	0.4	9	1.1
Looking for work	448,000	45	5.5	0	0.0	9	2.7	3	1.7	12	4.4	5	2.3	2	1.4	27	4.5
Not in labor force	2,099,000	56	2.0	1	0.4	11	1.3	7	1.0	8	1.0	2	0.5	3	0.6	19	2.0

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Figure 12.—Adjusted difference in expenditures for children's primary arrangements, by selected characteristics of the primary arrangement: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for child's age, race–ethnicity, and household income, structure, and size; home language; type of primary nonparental care arrangement; and other characteristics of the primary nonparental care arrangement. For noncenter-based care arrangements, parental involvement and number of services were set to zero. For supporting data see appendix table 9.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Several characteristics were associated with parental expenditures for their children's primary care arrangements. For instance, each health-related service offered by a primary arrangement was, on average, associated with a $0.21 lower cost per hour (figure 12). Parents also paid $0.17 more per hour when the caregiver was trained. Although cost was not associated with a lower ratio of children to staff or a provider who encouraged parental participation, care that was close to home had a higher average cost ($0.21 per hour). Thus, it appears that the features of a child care arrangement are only somewhat related to its cost. Provider training was the only child care attribute that has been associated with positive outcomes for children and that was related to higher expenditures by parents. This is consistent with the literature that shows a very weak relationship between the quality of care as defined by child psychologists and how much the care costs (Helburn et al. 1995; Waite, Leibowitz, and Witsberger 1991).

THE IMPORTANCE OF CHILD CARE ATTRIBUTES IN PARENTS' CHILD CARE DECISIONS

Parents were asked whether each of the following child care attributes was very important to them, somewhat important to them, or not important to them in making their child care decisions: a reasonable cost, a small number of children in the same class or group, a place close to your home, a place where children will be cared for when they are sick, a caregiver who has special training in taking care of children, and a caregiver or teacher who speaks English with your child.

This section focuses on whether or not the parent reported that the attribute was very important to them. With the exception of sick child care, the parents of more than half of preschoolers reported that each of these characteristics was very important in selecting a child care arrangement (table 14). The parents of 84 percent of preschoolers said that it was important whether the provider spoke English with the child. The parents of about three-quarters of preschoolers said that whether the provider was trained in taking care of children was important. Having a small number of children in the same class or group was important to the parents of more than two out of three preschoolers. Obtaining care at a reasonable cost was important to 64 percent of parents. Moreover, having a provider who was close to home was very important to the parents of 57 percent of children.

A number of child and family characteristics, including the type of primary care arrangement and parents' sources of information about child care alternatives, were associated with the child care characteristics that parents felt were very important in making their decisions. These are discussed below.

Type of Primary Arrangement

The characteristics that parents rated as important varied with the type of care that served as the child's primary arrangement. Parents of children enrolled in Head Start or cared for by relatives were most likely to rate the cost and the availability of sick child care as very important in making their child care decision. In addition, parents of children in Head Start were the most likely to rate closeness to home as very important, though their children were actually less likely than those in non-Head Start center-based programs to be close to home (see p. 51). Parents who used child care centers as the primary arrangement, were more likely to report whether a provider was trained and whether English was spoken, than those using family child care or in-home care. Those attributes were very important considerations in choosing a child care arrangement.

Table 14.—Percentage of preschool children under 6 years old whose parents reported various characteristics to be very important in choosing a nonparental care arrangement, by primary arrangement type, parents' source of information about arrangements or programs, and child and family characteristics: 1995

Characteristics	Reasonable cost		Small number of children		Close to home		Sick child care available		Trained provider		English spoken	
	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	64	0.9	68	0.9	57	1.0	49	0.9	77	0.7	84	0.7
Primary arrangement type												
Total center-based	62	1.3	66	1.4	54	1.2	38	1.2	86	1.0	87	0.7
Head Start center	75	2.6	58	3.9	68	2.7	64	3.7	89	2.3	87	2.1
Non-Head Start center	60	1.4	67	1.4	52	1.3	34	1.3	86	1.0	87	0.8
Family child care	63	1.9	71	1.8	56	2.1	47	1.5	61	1.4	82	1.4
Sitter	54	4.7	74	3.3	67	5.2	49	4.0	60	4.6	78	3.5
Relative	70	1.6	68	1.5	62	1.9	67	1.6	76	1.4	83	1.1
Source of information												
Friends	61	1.4	69	1.2	55	1.3	42	1.2	74	1.2	84	1.0
Employer	53	5.3	70	4.4	41	4.3	34	5.2	83	3.8	79	3.9
School	63	4.0	66	4.2	53	4.1	47	4.7	83	3.0	88	2.3
Church	61	4.1	77	3.4	54	4.1	36	4.3	69	4.1	88	3.0
Advertisement	62	3.4	68	3.1	55	4.1	34	3.0	82	2.4	87	1.7
Agency	59	6.1	69	5.6	58	5.2	41	5.8	78	4.5	80	3.5
Referral service	57	6.3	69	8.1	55	7.8	32	6.1	81	5.3	86	4.0
Other	66	2.6	67	2.8	56	3.3	42	2.6	85	2.2	85	2.1
Age												
Less than 1	66	2.2	71	2.1	61	2.6	59	2.5	73	2.2	81	1.8
1	63	2.0	72	1.7	59	2.0	55	1.9	71	1.9	81	1.7
2	66	1.8	71	1.8	55	2.0	52	2.0	74	1.6	84	1.6
3	62	1.8	66	1.8	56	1.8	45	1.5	77	1.8	83	1.5
4	64	1.4	65	1.7	58	1.7	44	1.8	82	1.4	89	1.0
5	61	3.2	66	3.2	52	3.0	40	2.9	82	2.5	84	2.3
Race–ethnicity												
White, non-Hispanic	58	1.2	69	1.0	53	1.3	39	1.1	73	1.0	86	0.8
Black, non-Hispanic	83	1.4	64	2.1	67	2.0	77	1.8	86	1.6	89	1.4
Hispanic	70	1.9	69	2.2	68	1.5	68	2.2	82	1.8	69	2.4
Other, non-Hispanic	67	2.8	68	4.1	56	3.9	50	3.7	80	3.0	75	3.3

Table 14.—Percentage of preschool children under 6 years old whose parents reported various characteristics to be very important in choosing a nonparental care arrangement, by primary arrangement type, parents' source of information about arrangements or programs, and child and family characteristics: 1995—Continued

Characteristics	Reasonable cost		Small number of children		Close to home		Sick child care available		Trained provider		English spoken	
	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Mother's employment status												
Currently employed	63	1.0	69	0.9	57	1.3	49	1.2	75	0.8	85	0.7
35 hours or more per week	65	1.2	70	1.2	59	1.2	51	1.5	75	1.3	84	0.7
Less than 35 hours per week	60	2.1	69	1.4	54	2.4	45	1.9	75	1.6	86	1.5
Looking for work	77	4.5	52	5.2	60	4.5	70	4.8	85	3.2	84	3.1
Not in labor force	61	2.2	68	2.1	55	2.0	42	2.0	81	1.8	85	1.7
Number of risk factors												
None	55	1.1	71	1.1	52	1.6	37	1.2	73	1.2	86	0.9
One	66	1.7	69	1.5	56	1.8	50	1.9	78	1.6	81	1.3
Two or more	78	1.6	61	1.9	68	1.4	69	2.1	82	1.4	85	1.2

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Source of Information

Families who received their information about child care options from an employer were less likely than those who received their information from friends to report that the distance between home and care was very important in making a child care decision. This might be because parents who have access to care at the workplace may be less likely to consider the distance of the program from home to be important in selecting their child care arrangement.

Age

Parents' preferences for the care of their children varied somewhat with their children's age, with most of the differences occurring between parents of infants and toddlers versus parents of older children. Compared with parents of 4-year-olds, parents of 1-year-olds were more likely to report that a low child/staff ratio was important to them. Also, parents of children under age 3 were more likely than parents of 4- and 5-year-olds to report that the availability of sick child care was important to them, while parents of 4-year-olds were more likely than parents of children under age 3 to report that having a trained provider was very important to them. Finally, parents of 4-year-olds were more likely than parents of children under age 2 to report that having a provider who spoke English was very important when selecting a child care arrangement.

Maternal Employment

Employed mothers were less likely to report that reasonable cost was a very important characteristics of a child care arrangement than were mothers who were looking for work. Moreover, employed mothers were less likely than those who were not employed to report that finding a trained child care provider and the availability of sick child care were important.

Race–Ethnicity

Parents of black, non-Hispanic and Hispanic children were more likely than parents of white, non-Hispanic children to report that the cost of care and the availability of a trained provider were very important in selecting a child care arrangement. They were also more likely than parents of white, non-Hispanic children to be concerned about the availability of sick child care.

Risk Factors

Previous sections of this report have focused on how separate risk factors are associated with parental preferences for the care of their children. This section provides a summary of these findings by using an index of risk factors, which gives a point for each risk factor a family has. Parents of children with no risk factors were less concerned than parents of children with any risk factors about finding care at reasonable cost, that provided sick child care, and that had a trained provider. Furthermore, parents of children with no risk factors or only one risk factor were less concerned than parents of children with two or more risk factors about finding care that was close to home. However, parents of children with no risk factors or a single risk factor were more concerned than parents of children with two or more risk factors about the number of children cared for at the same time.

SUMMARY

Parents' primary sources of information about the availability and characteristics of their children's primary care arrangements were informal. Almost 60 percent of parents reported that friends were the major source for learning about their children's primary care arrangement.

Can price serve as an indicator of programs of higher quality? It appears that the characteristics of a child care arrangement are only somewhat related to its cost. Because programs that are subsidized are more likely than those that are not to provide services, services were found to be associated with a lower, rather than a higher, price of care. Provider training was the only child care attribute associated with positive outcomes for children that was related to higher expenditures by parents.

Factors influencing parental decisions regarding the type and characteristics of care were tied to the age of the child, maternal employment, and a number of economic and social risk factors. In addition, the factors that parents ranked as most important varied by the age of the child. For example, parents of younger children reported that a small group size and sick child care were important in choosing an arrangement, whereas parents of older children reported that the provider's training and speaking English with their children were important considerations. Employed mothers were less likely to report that the cost of care, the availability of a trained provider, and the availability of care for sick children were important considerations. Finally, parents of children with two or more risk factors were more likely than parents of children with no risk factors to be concerned about cost, proximity to home, sick child care, and the training of the provider. They were less likely to be concerned about the number of children cared for at the same time, however.

Chapter 5. Were Parents' Preferences Related to the Attributes of the Child Care Arrangements They Selected?

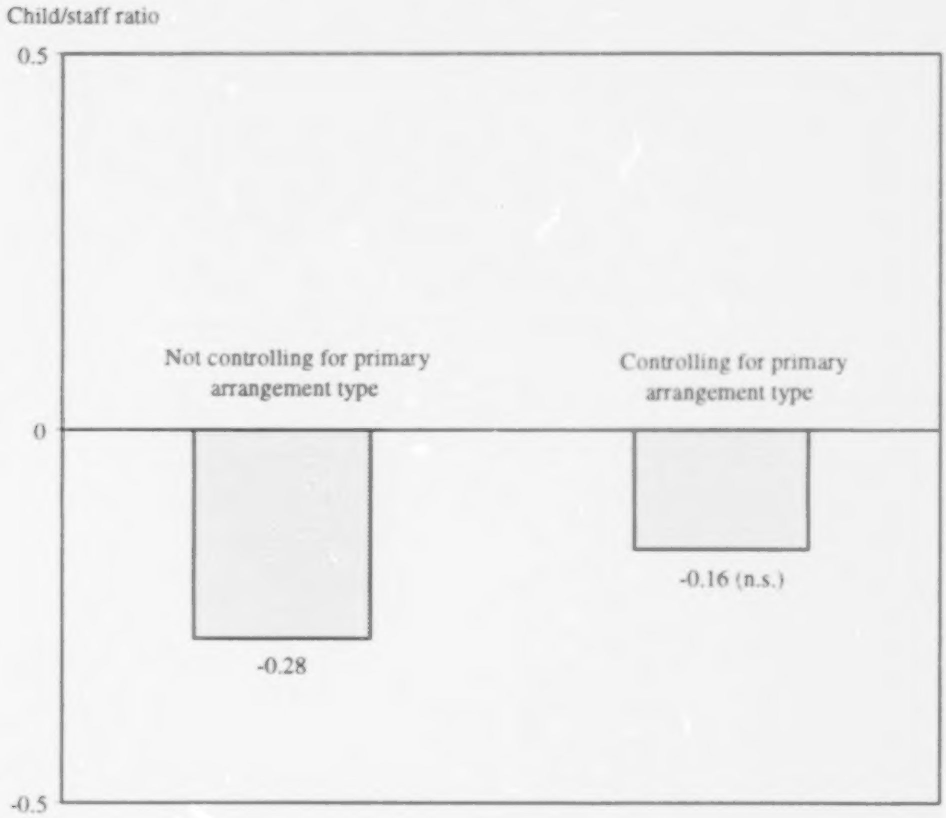
If parents are well informed about the characteristics of their children's arrangements and their preferences are as salient in their decision making as they report them to be, then one would expect a significant relationship between their preferences and the characteristics of their children's care arrangements. This chapter examines how parents' reported preferences regarding their children's care that were related to the characteristics of their children's primary arrangements.

This analysis relates each of the six parental preferences—reasonable cost, small number of children, proximity of child care to home, availability of sick child care, having a trained provider, and having English spoken most of the time—to the corresponding characteristic of their children's primary arrangements—cost, child/staff ratio, whether care was less than 10 minutes from home, availability of sick child care, and whether the provider was trained in child development and spoke English—while controlling for child and family characteristics. Because child care characteristics come bundled in a package rather than separately, the type of primary child care arrangement was included in a second analysis for each child care characteristic. In general, if parents reported a characteristic to be very important, their children's primary arrangements were likely to have that characteristic. The remainder of this chapter examines each of the six child care characteristics in turn.

CHILD/STAFF RATIO

Children of parents who reported that the number of children cared for at the same time was very important to them were more likely to be in primary arrangements with smaller child/staff ratios than were other children (figure 13). However, the relationship between parents' preference for a smaller number of children and the child/staff ratio of the child's primary arrangement was no longer statistically significant once the type of arrangement was included in the model. This suggests that parents who strongly preferred that their child be cared for with a smaller number of children tended to select a care arrangement with a small child/staff ratio (such as family child care or in-home care).

Figure 13.—Adjusted difference in child/staff ratio of children's primary arrangement, for preschool children under 6 years old whose parents preferred a smaller number of children: 1995



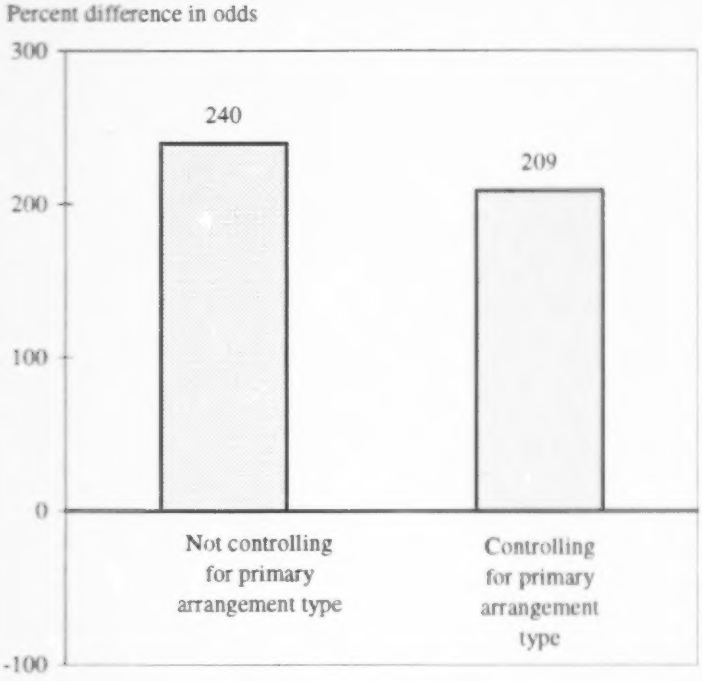
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10. In this figure, "n.s" indicates that the estimate is not statistically significant at the 0.05 significance level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

SICK CHILD CARE

Parents to whom sick child care was very important were more likely to choose a primary arrangement in which care for sick children was available, than were those to whom sick child care was less important (figure 14). Furthermore, this relationship persisted when type of arrangement was controlled, suggesting that the relationship was not due to the fact that such parents were more likely to select an informal arrangement in which sick child care was likely to be available (as shown above).

Figure 14.—Adjusted percent difference in the odds that the primary arrangement provided sick child care, for preschool children under 6 years old whose parents preferred having such care: 1995



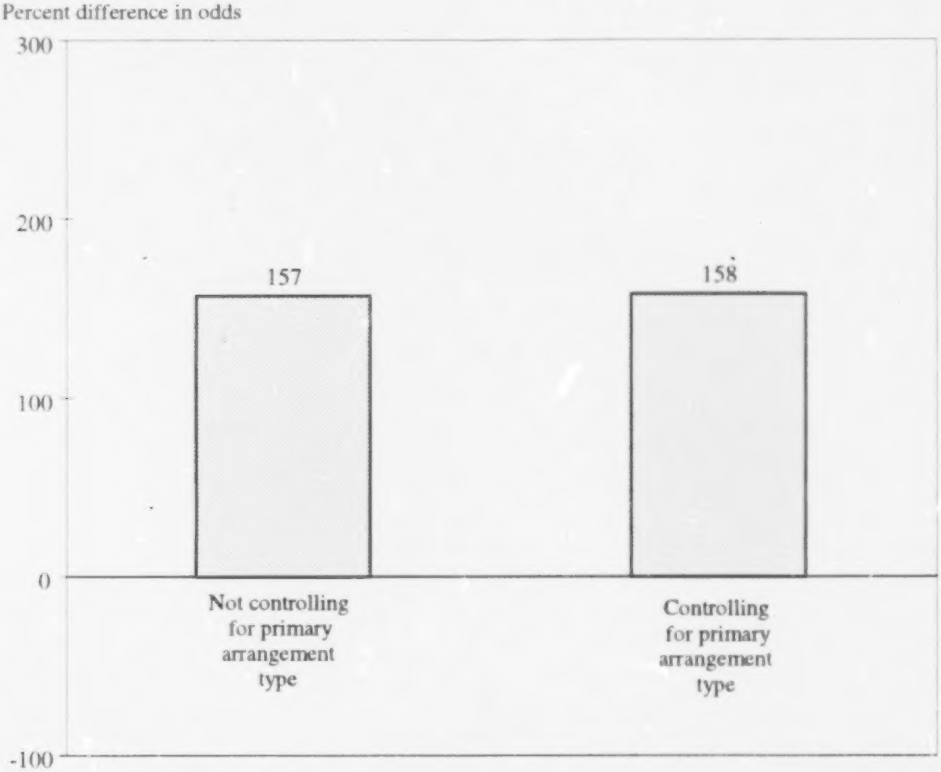
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

PROXIMITY TO THE PROVIDER

Parents who reported that being close to the provider was very important were more likely than those to whom distance was less important to have chosen a provider that was nearby (figure 15). Moreover, this relationship held when type of arrangement was controlled, suggesting that the relationship was not due to the fact that such parents were less likely to select a Head Start program (shown above).

Figure 15.—Adjusted percent difference in the odds that the primary arrangement was within 10 minutes from home, for preschool children under 6 years old whose parents preferred having child care close to home: 1995



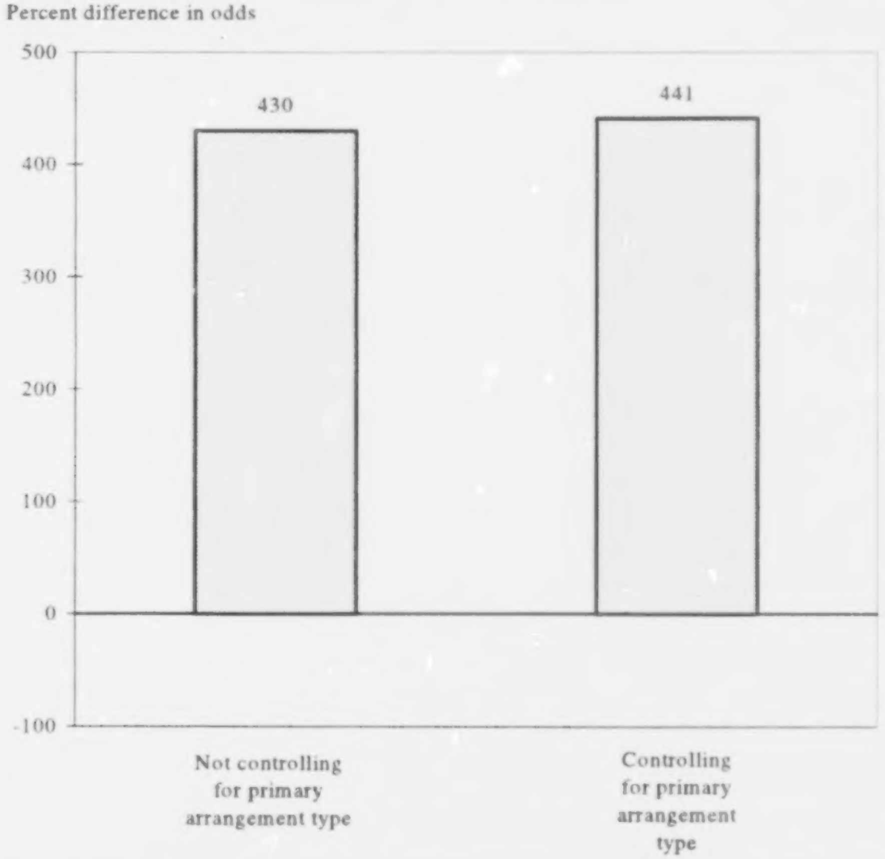
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

PROVIDER TRAINING

Parents to whom the training of the provider was very important were more likely to select an arrangement with a trained provider for their child than were those to whom training was less important (figure 16). This relationship also held when type of arrangement was controlled.

Figure 16.—Adjusted percent difference in the odds that the care provider in the primary arrangement had training, for preschool children under 6 years old whose parents preferred having a trained provider: 1995



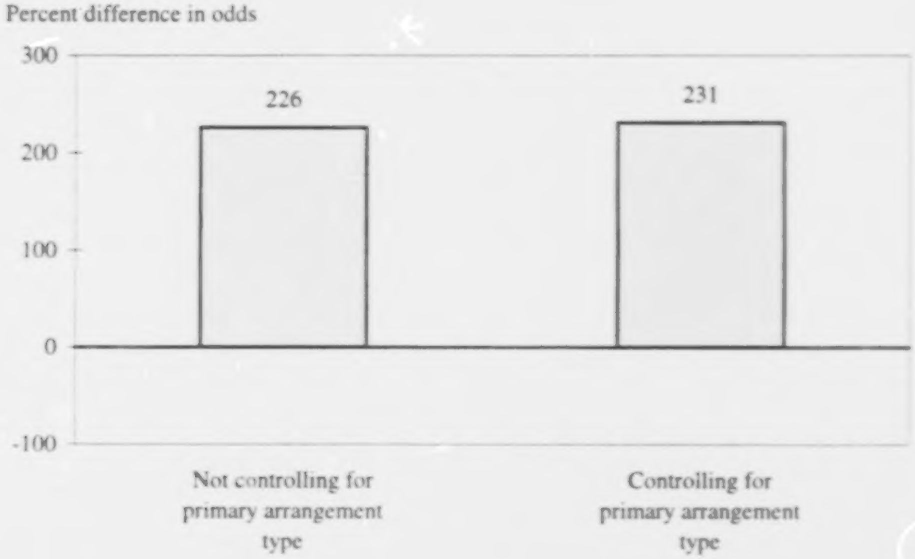
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

PROVIDER USE OF ENGLISH

Parents who reported whether the care provider spoke English most of the time was very important to them were more likely than other parents to choose a primary child care arrangement in which English was spoken with their children (figure 17). This relationship also held when type of arrangement was controlled.

Figure 17.—Adjusted percent difference in the odds that the care provider in the primary arrangement spoke English with the child most of the time, for preschoolers under 6 years old whose parents preferred an English-speaking care provider: 1995



NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

COST OF CARE

Finally, there was no association between rating the cost of care as very important and paying less for care, adjusting for other factors (not shown). This might be because most parents want child care at a reasonable cost, but the definition of "reasonable cost" varies substantially among parents. In addition, parents cannot control the cost to match what they want to pay.

Chapter 6. Were Parents' Preferences Related to the Types of Arrangements They Selected?

If parents' preferences really influence their decisionmaking regarding the care of their children, these preferences should be linked to their children's child care arrangements. However, parents are somewhat limited in their abilities to apply preferences to child care decisions because child care attributes come bundled in packages called arrangements or programs, as discussed previously. The characteristics that are associated with any given type of care may be satisfactory for some children, but not for others; for example, professional standards permit higher child/staff ratios for older children than for infants in center-based programs (Hayes et al. 1990). As a consequence, parents have to put a premium or priority on certain attributes and downplay others when they select their children's arrangements. Therefore, it is important to examine which preferences for child care attributes are most related to the types of care that parents actually select.

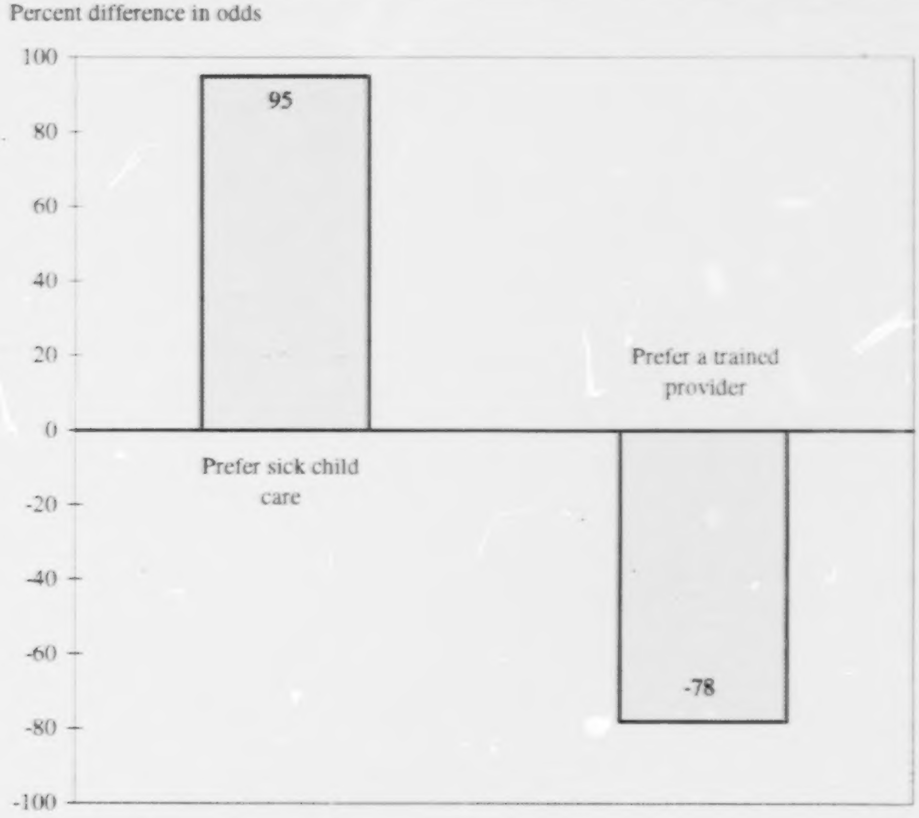
This chapter examines the difference in the odds that a child's primary arrangement was family child care or relative care versus center-based care, given his or her parents' preference for a particular child care characteristic. Because parents' preferences for attributes of arrangements were not significantly related to children's enrollment in Head Start versus other center-based programs, the comparison category is all center-based programs. In addition, parents' preferences were not associated with choosing in-home care relative to center-based care, controlling for other child and family characteristics, and are not reported here (see table A11).

FAMILY CHILD CARE

Parental preferences for trained caregivers and sick child care were related to parents' choice of family child care versus center-based care as their children's primary arrangement (figure 18). Children for whom family child care was the primary arrangement were less likely than children whose primary arrangements were center-based programs to have caregivers trained in child development. Consistent with this result, children of parents who said that having a trained child care provider was very important were less likely than other children to be cared for in family child care versus center-based care most of the time they were in nonparental care.

Consistent with the fact that family child care providers are more likely to provide sick child care than are centers, those children whose parents preferred sick child care were more likely than other children to be cared for in family child care versus center-based care for most of their nonparental care time.

Figure 18.—Adjusted percent difference in the odds that a child's primary arrangement was family day care versus a center-based program, for preschool children under 6 years old whose parents preferred having sick child care and a trained care provider: 1995



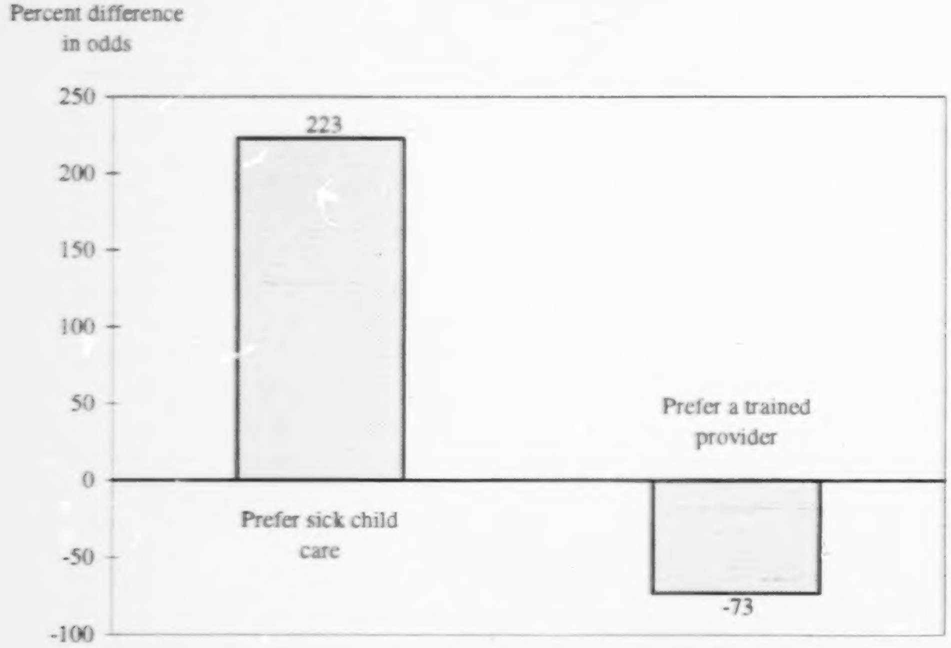
NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

RELATIVE CARE

Consistent with the greater availability of sick child care among children whose primary arrangements were relative care (table 3), parents to whom sick child care was very important were more likely than other parents to use relative care versus a child care center as their primary arrangement (figure 19). Similarly, parents of children whose primary arrangement was relative care were the least likely to report that their children's care provider was trained in child development (table 3). In addition, children of parents to whom having a trained provider was very important were less likely than other children to be cared for by a relative than in a center-based arrangement during most of their time in nonparental care.

Figure 19.—Adjusted percent difference in the odds that a child's primary arrangement was relative care versus a center-based program, for preschool children under 6 years old whose parents preferred having sick child care and a trained care provider: 1995



Note: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. Difference adjusted for age of child; race–ethnicity; employment status; region and urbanicity of residence; educational attainment; household income and structure; home language; child's disability status; and age at first birth; and other parental preferences. For supporting data see appendix table 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

SUMMARY

Children whose parents wanted a trained child care provider tended to spend most of their nonparental care time in center-based programs versus family child care or relative care. The value parents place on the training of their child care provider may be an important factor in making decisions about their children's care. A second important factor is the value parents place on the availability of care for a mildly ill child. Children whose parents reported that care for a mildly ill child was important in their child care decisionmaking were more likely to have relatives or family child care providers, rather than center-based programs as their primary arrangements. While these findings suggest that parental preferences influence the choice or use of early care and education arrangements for their children, it may also be that parents justify using the arrangements they have chosen. We cannot determine based upon our data which is the correct interpretation of these results.

Parental preferences were not associated with their children's enrollment in Head Start versus other center-based programs. Rather parental characteristics and eligibility criteria were more important. That is, factors associated with enrollment in Head Start are not parental preferences but, instead, the characteristics that make them eligible according to program criteria.

Chapter 7. Summary and Conclusions

This report has examined the early childhood education programs and nonparental care arrangements that parents selected for their preschool children in 1995. It has also examined the sources of information that parents use in making child care decisions and whether the cost of care can help parents easily recognize a quality program. Finally, it has explored what parents said was important to them when making their child care decisions and how those preferences fit with the care they actually purchased for their children. This final chapter addresses a number of key questions arising from the analyses conducted here. Were children at greater risk of school failure in lower quality care than children at lower risk? Did parents value child care characteristics associated with positive child development? Has research in child care included child care characteristics that parents value? Does the price parents pay for child care indicate the quality of the care their children actually receive?

WERE CHILDREN AT GREATER RISK OF SCHOOL FAILURE IN LOWER QUALITY CARE?

Compared with children who did not have various characteristics associated with school failure, children who had these characteristics spent more time in nonparental care and were more likely to be in multiple care arrangements. There is no simple relationship between amount of time in arrangements and child development. In fact, based upon the characteristics measured in this study, children from high-risk families were in programs that provided more services than the programs children from low-risk families were in. Adjusting for various child and family characteristics and arrangement type, children from low-income families were more likely to have sick child care and to receive more services from their primary arrangements than children from high-income families. Several other risk factors, such as having a disability, not speaking English at home, being from a large family, and having a mother who had not completed a high school diploma, were also associated with receiving more services. Therefore, when taking these characteristics into account, children at greater risk of school failure received more services than did those at lower risk. No differences in the child/staff ratio or training of children's care provider were associated with being from a high-risk family.

DID PARENTS VALUE QUALITY WHEN CHOOSING CHILD CARE?

Parents' preferences for child care characteristics were consistent with child development experts' opinions on the characteristics that matter to children's development. For instance, parents were less likely to report that distance from home was more important than having their children cared for by a trained provider and with a small number of children.

The cost of child care was almost as important as the number of children cared for in the same group or class, however. In addition, although parents said that small groups were very important, the relationship between their preference for a small number of children and the child/staff ratio in the child's care arrangement was relatively weak. When the effect of ratio was confounded with type of program, the relationship was significant. After arrangement type was controlled, however, the relationship between preference for a small number of children and child/staff ratio in the child's arrangement declined and was no longer statistically significant. There was little variation in the child/staff ratio among child care centers, and it may be difficult for parents to assess the child/staff ratio of center-based programs. Furthermore, other research has failed to find family characteristics that are associated with the differences in child/staff ratios among children's center-based programs or among family child care homes (Blau 1991).

In contrast, children of parents who reported that having a trained provider was important in choosing their children's care arrangements were more likely to be in arrangements with a trained provider. This suggests either that provider training is salient when parents make child care arrangements or that parents use characteristics to justify their choice ex post facto.

ARE THE CHILD CARE CHARACTERISTICS THAT PARENTS PERCEIVE AS IMPORTANT ADEQUATELY MEASURED IN CURRENT RESEARCH?

Previous research has focused primarily on examining whether the arrangements parents choose reflect their preferences for low child/staff ratios and trained providers. This study found that a variety of other child care characteristics were related to parents' choices concerning their children's primary arrangements. These characteristics include the distance between home and care, whether sick child care was available, the cost of care, and whether English was spoken most of the time.

Given this new information, future research should look for other characteristics that both the previous research and this study have missed. What professionals think is important may not be what parents want. For example, one factor that parents report to be important to them but that is difficult to measure is the quality of the relationship between the child care provider and the child (Hofferth, Brayfield, Deich, and Holcomb 1991). Another characteristic that new research has found to be related to parental choices is the flexibility of the arrangement (Emlen 1997). Unless studies of nonparental child care and child development include aspects that parents consider important such as convenience and price, the picture of the relative importance of different aspects of care to what parents choose for their children will be incomplete. Similarly, demographic or economic studies of child care should include aspects of the relationship between the child and the care provider.

CAN PARENTS USE PRICE AS AN INDICATOR OF CHILD CARE QUALITY?

On the basis of the characteristics of programs examined in this study, it would be difficult to determine the features of a program based on cost alone. Parents may think that if they pay more, they will obtain a better program. However, the research described in this report found inconsistent relationships between what parents paid for their primary arrangements and various child care characteristics associated with positive outcomes for children. For instance, there was no relationship between the child/staff ratio and the cost of care, although parents did pay more for their primary child care arrangement when it had a trained provider. In general, center-based programs have consistently higher ratios of children to staff than do other early care and education arrangements; yet they are more likely to have trained providers.

There are many types of center-based programs, including programs such as Head Start, that are free of charge to low-income children as well as very expensive programs used by high income families. Having a high ratio of children to staff may indicate a high quality (and thus oversubscribed) program, or it may indicate the program's lack of concern about providing children with individualized attention. Thus, parents could not consistently identify a quality program by the price of care. Training was the sole indicator of quality that was linked with greater parental expenditures for child care.

One policy implication of this report is that parents need more information about child care options and about the quality of those options. Informal networks, such as friends, were the major source of parents' information. Few parents reported receiving information from formal sources such as agencies or resource and referral associations. Parents appear to desire characteristics that early childhood experts associate with positive child development; however, they cannot always translate preferences into program characteristics. Additional research is needed to determine the extent to which supply factors limit parental choices.

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Appendix A: Supplemental Tables

Table A1.—Percentage distribution of preschool children under 6 years old according to number of hours per week in nonparental care and average hours per week in nonparental care, by child and family characteristics: 1995

Demographic characteristics	Number of children	Number of hours per week in nonparental care										Average hours[1]	
		0 hours (parental care only)		1–14 hours		15–24 hours		25–34 hours		35 or more hours			
		Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Average	se
Total	21,414,000	41	0.9	15	0.5	8	0.4	8	0.4	28	0.8	30	0.3
Age of child													
Less than 1	4,158,000	56	1.6	8	1.0	7	0.7	6	0.9	23	1.5	31	0.9
1	4,027,000	51	1.7	9	0.8	7	0.8	6	0.6	26	1.5	32	0.7
2	4,007,000	47	1.6	13	0.9	6	0.7	7	0.6	27	1.2	30	0.6
3	4,123,000	33	1.9	18	1.1	10	0.9	8	0.9	31	1.4	29	0.5
4	4,061,000	23	1.3	25	1.2	11	0.8	10	0.9	31	1.2	28	0.5
5	1,038,000	16	1.8	25	2.3	11	1.7	14	1.8	32	3.0	28	1.1
Race–ethnicity													
White, non-Hispanic	13,996,000	39	1.1	18	0.7	9	0.5	8	0.5	26	0.9	28	0.4
Black, non-Hispanic	3,338,000	35	2.1	9	1.2	7	0.9	9	1.1	40	1.8	36	0.8
Hispanic	2,838,000	54	1.7	12	1.0	7	1.1	6	0.8	21	1.4	31	0.7
Other, non-Hispanic	1,243,000	43	3.0	13	1.7	8	1.7	6	1.2	30	2.6	33	1.2
Mother's employment status													
Currently employed	11,002,000	18	0.8	14	0.7	11	0.6	11	0.6	46	1.1	33	0.4
35 hours or more per week	7,018,000	13	0.8	8	0.6	6	0.6	9	0.6	65	1.3	38	0.4
Less than 35 hours per week	3,983,000	27	1.6	24	1.5	20	1.3	16	1.3	13	1.1	23	0.5
Looking for work	1,615,000	58	3.1	12	1.5	6	1.2	9	1.7	14	1.8	26	1.1
Not in labor force	8,150,000	69	1.1	18	0.9	5	0.5	3	0.4	5	0.5	18	0.6
Region													
Northeast	4,275,000	44	1.6	19	1.2	8	1.0	8	0.9	21	1.5	26	0.6
Midwest	7,149,000	35	1.3	11	0.7	7	0.6	8	0.7	38	1.3	34	0.5
South	5,287,000	39	1.7	17	1.0	10	0.9	9	0.9	26	1.4	29	0.6
West	4,703,000	48	1.7	16	1.2	9	0.8	7	0.8	20	1.2	27	0.6

Table A1.—Percentage distribution of preschool children under 6 years old according to number of hours per week in nonparental care and average hours per week in nonparental care, by child and family characteristics: 1995—Continued

Demographic characteristics	Number of children	Number of hours per week in nonparental care											
		0 hours (parental care only)		1–14 hours		15–24 hours		25–34 hours		35 or more hours		Average hours[1]	
		Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Average	se
Urban													
Nonmetropolitan	5,015,000	39	2.0	16	1.0	8	0.8	8	0.9	29	1.7	30	0.6
Metropolitan	16,400,000	41	0.8	15	0.6	9	0.4	8	0.5	27	0.7	30	0.3
Mother in household													
No	648,000	39	4.3	10	2.1	6	1.9	8	2.2	36	3.7	37	1.8
Yes	20,766,000	41	0.9	15	0.5	8	0.4	8	0.4	28	0.8	30	0.3
Risk factors													
Mother's educational attainment													
Less than high school	3,767,000	59	1.9	9	0.9	6	0.8	7	1.0	19	1.1	31	0.7
High school	7,182,000	44	1.3	15	0.7	8	0.7	7	0.6	26	1.1	29	0.5
Some college	5,106,000	34	1.7	17	1.1	10	0.8	8	0.7	31	1.3	30	0.5
College/graduate school	4,711,000	29	1.4	19	1.1	9	0.8	9	0.8	34	1.5	29	0.5
Household structure													
Two parents	15,732,000	43	1.0	17	0.6	8	0.5	7	0.4	24	0.9	27	0.4
One parent	5,276,000	34	1.5	9	0.8	8	0.8	9	0.9	40	1.3	36	0.5
Household income													
$15,000 or less	6,016,000	50	1.7	11	0.7	8	0.8	9	0.9	23	1.1	31	0.5
$15,001–25,000	2,991,000	50	1.9	12	1.3	7	0.8	6	0.8	25	1.8	31	1.1
$25,001–35,000	3,235,000	42	2.0	14	1.0	8	0.9	7	0.9	28	1.7	30	0.6
$35,001–50,000	3,899,000	39	1.5	19	1.5	8	0.7	6	0.6	28	1.7	28	0.8
More than $50,000	5,274,000	26	1.4	20	1.0	10	0.8	10	0.7	34	1.4	29	0.5
In poverty													
Yes	5,737,000	37	0.8	17	0.6	9	0.4	8	0.5	30	0.9	30	0.5
No	15,677,000	52	1.9	11	0.8	8	0.9	9	0.9	21	1.2	30	0.4

Table A1.—Percentage distribution of preschool children under 6 years old according to number of hours per week in nonparental care and average hours per week in nonparental care, by child and family characteristics: 1995—Continued

Demographic characteristics	Number of children	Number of hours per week in nonparental care											
		0 hours (parental care only)		1–14 hours		15–24 hours		25–34 hours		35 or more hours		Average hours[1]	
		Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Average	se
Household size													
2–3 persons	6,176,000	34	1.0	12	0.8	8	0.6	10	0.8	36	1.1	33	0.5
4 persons	8,016,000	38	1.2	17	0.8	9	0.6	9	0.6	28	1.2	29	0.5
5 persons	4,046,000	46	1.7	19	1.3	9	1.0	6	0.8	20	1.4	26	0.7
6 or more persons	3,177,000	54	3.0	14	1.1	6	0.9	4	0.9	22	2.3	31	1.1
Home language													
English	18,813,000	39	1.0	16	0.5	9	0.4	8	0.5	28	0.9	30	0.3
Non English	1,954,000	62	2.2	10	1.3	6	1.3	4	0.7	19	1.7	30	1.0
Disabling condition													
None	19,551,000	42	0.9	15	0.5	8	0.4	8	0.5	28	0.8	30	0.3
One or more	1,863,000	34	2.7	18	1.4	11	1.5	9	1.2	28	2.0	30	0.8
Mother's age at first birth													
Less than 18	2,554,000	46	2.5	9	0.9	9	1.5	9	1.5	27	2.0	34	1.1
18–19	3,066,000	49	1.9	12	1.1	8	0.9	7	1.0	23	1.5	30	0.9
20 years or older	15,147,000	38	1.0	17	0.6	8	0.5	8	0.5	28	0.8	29	0.4
Number of risk factors													
None	9,533,000	36	0.9	19	0.8	9	0.6	8	0.5	28	1.0	28	0.4
One	4,979,000	39	1.5	15	0.9	7	0.7	8	0.8	31	1.5	30	0.6
Two or more	6,903,000	49	1.6	10	0.7	8	0.7	8	0.8	25	1.1	32	0.6

[1] Mean hours per week in nonparental care among preschool children enrolled in nonparental care arrangements.

NOTE: Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A2.—Percentage distribution of preschool children under 6 years old according to number of nonparental care arrangements, by child and family characteristics: 1995

Demographic characteristics	Number of children	Number of nonparental care arrangements					
		None		One		Two or more	
		Percent	se	Percent	se	Percent	se
Total	21,414,000	41	0.9	47	0.8	12	0.4
Age							
Less than 1	4,158,000	56	1.6	38	1.6	6	0.9
1	4,027,000	51	1.7	42	1.7	7	0.9
2	4,007,000	47	1.6	46	1.5	7	0.8
3	4,123,000	33	1.9	52	1.8	15	1.0
4	4,061,000	23	1.3	55	1.4	22	1.1
5	1,038,000	16	1.8	59	2.6	25	2.5
Race–ethnicity							
White, non-Hispanic	13,996,000	39	1.1	48	1.1	13	0.5
Black, non-Hispanic	3,338,000	35	2.1	50	2.1	15	1.1
Hispanic	2,838,000	54	1.7	39	1.7	7	0.7
Other, non-Hispanic	1,243,000	43	3.0	47	2.8	10	1.6
Mother's employment status							
Currently employed	11,002,000	18	0.8	63	0.9	19	0.7
35 hours or more per week	7,018,000	13	0.8	68	1.0	20	0.9
Less than 35 hours per week	3,983,000	27	1.6	54	1.6	19	0.9
Looking for work	1,615,000	58	3.1	38	3.1	4	1.0
Not in labor force	8,150,000	69	1.1	28	1.0	4	0.4
Region							
Northeast	4,275,000	44	1.6	44	1.5	12	0.8
Midwest	7,149,000	35	1.3	52	1.2	12	0.6
South	5,287,000	39	1.7	47	1.6	14	1.0
West	4,703,000	48	1.7	42	1.6	10	0.8
Urban							
Nonmetropolitan	5,015,000	39	2.0	48	1.9	13	1.0
Metropolitan	16,400,000	41	0.8	47	0.9	12	0.5
Mother in household							
No	648,000	39	4.3	47	4.3	13	2.4
Yes	20,766,000	41	0.9	47	0.9	12	0.4
Risk factors							
Mother's educational attainment							
Less than high school	3,767,000	59	1.9	33	2.0	7	1.1
High school	7,182,000	44	1.3	45	1.1	11	0.7
Some college	5,106,000	34	1.7	52	1.6	14	0.7
College/graduate school	4,711,000	29	1.4	55	1.6	16	1.1
Household structure							
Two parents	15,732,000	43	1.0	47	1.0	10	0.5
One parent	5,276,000	34	1.5	48	1.6	18	1.1

Table A2.—Percentage distribution of preschool children under 6 years old according to number of nonparental care arrangements, by child and family characteristics: 1995—Continued

Demographic characteristics	Number of children	Number of nonparental care arrangements					
		None		One		Two or more	
		Percent	se	Percent	se	Percent	se
Household income							
$15,000 or less	6,016,000	50	1.7	39	1.8	11	1.0
$15,001–25,000	2,991,000	50	1.9	40	1.9	10	1.3
$25,001–35,000	3,235,000	42	2.0	47	1.8	11	0.9
$35,001–50,000	3,899,000	39	1.5	49	1.4	12	0.9
More than $50,000	5,274,000	26	1.4	59	1.5	15	0.9
In poverty							
Yes	5,737,000	52	1.9	38	1.9	10	1.0
No	15,677,000	37	0.8	50	0.8	13	0.4
Household size							
2–3 persons	6,176,000	34	1.0	53	1.1	13	0.8
4 persons	8,016,000	38	1.2	48	1.2	14	0.6
5 persons	4,046,000	46	1.7	44	1.7	10	0.9
6 or more persons	3,177,000	54	3.0	37	2.4	9	1.2
Home language							
English	18,813,000	39	1.0	48	1.0	13	0.5
Non English	1,954,000	62	2.2	34	2.0	4	0.8
Disabling condition							
None	19,551,000	42	0.9	47	0.9	12	0.4
One or more	1,863,000	34	2.7	49	2.4	17	1.7
Mother's age at first birth							
Less than 18	2,554,000	46	2.5	41	2.7	13	1.5
18–19	3,066,000	49	1.9	41	1.7	10	1.1
20 or older	15,147,000	38	1.0	49	1.0	12	0.5
Number of risk factors							
None	9,533,000	36	0.9	53	1.0	12	0.5
One	4,979,000	39	1.5	48	1.4	13	1.0
Two or more	6,903,000	49	1.6	39	1.6	12	1.0

NOTE: Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A3.—Percentage distribution of preschool children under 6 years old according to type of primary nonparental care arrangement, by child and family characteristics: 1995

Demographic characteristics	Percentage distribution by type of primary nonparental care arrangement												All center-based	
	None (parental care only)		Family child care		Sitter		Relative		Head Start		Other center-based			
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	41	0.9	13	0.6	3	0.2	17	0.5	3	0.2	23	0.5	26	0.5
Age														
Less than 1	56	1.6	14	1.0	3	0.5	21	1.2	0	—	6	0.9	6	0.9
1	51	1.7	15	1.0	3	0.5	20	1.2	0	—	10	0.8	10	0.8
2	47	1.6	15	1.2	4	0.6	17	1.0	0	—	17	0.8	17	0.8
3	33	1.9	13	1.1	3	0.6	17	1.2	4	0.5	31	1.3	35	1.4
4	23	1.3	9	0.9	2	0.4	11	0.8	10	0.8	44	1.5	55	1.4
5	16	1.8	9	1.5	2	0.6	8	1.7	12	2.1	52	2.4	64	2.6
Race–ethnicity														
White, non-Hispanic	39	1.1	15	0.8	4	0.4	14	0.6	2	0.2	26	0.7	28	0.7
Black, non-Hispanic	35	2.1	9	1.0	1	0.3	25	1.6	8	0.8	21	1.6	29	1.8
Hispanic	54	1.7	8	0.8	2	0.4	20	1.2	4	0.6	11	0.9	15	0.9
Other, non-Hispanic	43	3.0	9	1.6	2	0.8	21	2.6	4	1.4	20	2.5	25	2.5
Mother's employment status														
Currently employed	18	0.8	22	0.9	4	0.4	26	0.8	2	0.2	28	0.7	30	0.7
35 hours or more per week	13	0.8	24	1.1	4	0.4	27	1.0	3	0.3	29	0.9	32	0.8
Less than 35 hours per week	27	1.6	18	1.3	4	0.7	23	1.5	2	0.4	26	1.3	28	1.4
Looking for work	58	3.1	3	0.7	0	0.2	14	1.8	6	1.1	18	2.7	24	2.9
Not in labor force	69	1.1	3	0.4	2	0.3	6	0.5	3	0.4	18	0.7	21	0.8
Region														
Northeast	44	1.6	9	0.9	4	0.6	17	1.1	3	0.5	23	1.1	26	1.2
Midwest	35	1.3	12	0.9	2	0.3	19	0.9	4	0.4	28	1.0	32	1.0
South	39	1.7	18	1.4	3	0.5	17	1.1	3	0.5	20	1.2	23	1.3
West	48	1.7	12	0.9	4	0.7	14	1.1	2	0.4	20	0.9	22	1.0
Urban														
Nonmetropolitan	39	2.0	15	1.1	2	0.5	18	1.3	3	0.5	22	1.2	26	1.3
Metropolitan	41	0.8	12	0.5	3	0.3	17	0.6	3	0.2	23	0.5	27	0.6

Table A3.—Percentage distribution of preschool children under 6 years old according to type of primary nonparental care arrangement, by child and family characteristics: 1995—Continued

Demographic characteristics	Percentage distribution by type of primary nonparental care arrangement												All center-based	
	None (parental care only)		Family child care		Sitter		Relative		Head Start		Other center-based			
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Mother in household														
No	39	4.3	10	2.1	5	1.8	16	2.4	9	2.1	21	3.1	30	3.3
Yes	41	0.9	13	0.6	3	0.3	17	0.5	3	0.2	23	0.6	26	0.6
Risk factors														
Mother's educational attainment														
Less than high school	59	1.9	6	1.0	1	0.4	18	1.3	6	0.7	10	1.3	16	1.4
High school	44	1.3	13	0.9	2	0.3	19	1.0	4	0.4	19	0.9	22	0.9
Some college	34	1.7	15	1.2	1	0.4	19	1.0	2	0.4	27	0.9	30	1.0
College/graduate school	29	1.4	17	0.9	7	0.9	11	0.9	1	0.2	36	1.4	36	1.4
Household structure														
Two parents	43	1.0	14	0.7	3	0.3	14	0.5	2	0.2	24	0.6	26	0.6
One parent	34	1.5	11	0.9	2	0.4	26	1.4	6	0.7	21	1.4	28	1.4
Household income														
$15,000 or less	50	1.7	8	0.9	1	0.3	20	1.2	7	0.6	15	1.2	22	1.2
$15,001–25,000	50	1.9	10	1.1	2	0.4	17	1.3	4	0.7	17	1.2	21	1.3
$25,001–35,000	42	2.0	14	1.2	2	0.4	19	1.3	3	0.6	20	1.3	23	1.3
$35,001–50,000	39	1.5	16	1.4	3	0.7	16	1.0	1	0.4	24	1.3	26	1.2
More than $50,000	26	1.4	18	1.1	7	0.7	13	0.9	1	0.1	37	1.2	37	1.2
In poverty														
Yes	52	1.9	7	0.9	1	0.3	19	1.3	7	0.6	14	1.2	21	1.3
No	37	0.8	15	0.6	4	0.3	16	0.5	2	0.2	26	0.5	28	0.5
Household size														
2–3 persons	34	1.0	17	0.9	2	0.2	19	0.9	4	0.4	24	1.0	28	0.9
4 persons	38	1.2	14	0.9	3	0.4	15	0.7	3	0.3	26	1.0	29	1.1
5 persons	46	1.7	9	1.0	4	0.7	15	1.2	3	0.5	23	1.4	26	1.4
6 or more persons	54	3.0	6	1.0	3	0.8	18	1.9	4	0.6	14	1.3	18	1.4

Table A3.—Percentage distribution of preschool children under 6 years old according to type of primary nonparental care arrangement, by child and family characteristics: 1995—Continued

Demographic characteristics	Percentage distribution by type of primary nonparental care arrangement												All center-based	
	None (parental care only)		Family child care		Sitter		Relative		Head Start		Other center-based			
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Home language														
English	39	1.0	14	0.7	3	0.3	17	0.5	3	0.2	25	0.6	28	0.6
Non English	62	2.2	7	1.1	2	0.4	16	1.4	4	0.7	11	1.0	14	1.1
Disabling condition														
None	42	0.9	13	0.6	3	0.2	17	0.4	3	0.2	22	0.6	25	0.5
One or more	34	2.7	9	1.5	3	0.9	14	1.6	9	1.2	30	2.1	40	2.1
Mother's age at first birth														
Less than 18	46	2.5	9	1.3	2	0.7	23	2.0	7	1.3	14	1.8	21	2.1
18–19	49	1.9	9	1.0	2	0.5	21	1.4	5	0.8	15	1.5	20	1.6
20 or older	38	1.0	14	0.7	3	0.3	15	0.5	2	0.2	26	0.6	29	0.6
Number of risk factors														
None	36	0.9	18	0.8	4	0.4	14	0.7	1	0.2	28	0.8	29	0.8
One	39	1.5	11	0.9	3	0.5	18	1.1	3	0.4	26	1.0	29	1.0
Two or more	49	1.6	8	0.8	2	0.3	20	1.2	7	0.7	14	1.2	21	1.2

—Too few cases for a reliable estimate.

*In all instances, "se" indicates standard error. Standard errors less than .05 were rounded to 0.0.

NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Percentages may not sum to 100 and details may not sum to totals due to rounding or cell suppression.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A4.—For preschool children under 6 years old in some form of regular nonparental care, coefficients from OLS regression of the number of hours in nonparental care on child and family characteristics, by age: 1995

Demographic characteristics	All children		Infants (less than 1 year old)	
	b[1]	se	b[1]	se
Intercept	38.47*	1.83	39.71*	4.02
Age				
2 or younger	reference group		—	—
3–5	-0.22	0.46	—	—
Race–ethnicity				
White, non-Hispanic	reference group			
Black, non-Hispanic	3.37*	0.84	1.80	1.88
Hispanic	-0.30	0.79	-3.31*	1.63
Other, non-Hispanic	2.87*	1.20	1.13	2.52
Mother's employment status				
35 hours or more per week	reference group			
Less than 35 hours per week	-14.33*	0.60	-15.34*	1.32
Looking for work	-16.36*	1.26	-14.97*	3.05
Not in labor force	-19.87*	0.67	-14.31*	2.14
Region				
Northeast	reference group			
Midwest	[illegible].34*	0.73	3.30	2.04
South	1.01	0.78	2.35	2.11
West	0.47	0.81	1.03	2.32
Urban				
Nonmetropolitan	reference group			
Metropolitan	-0.11	0.62	0.61	1.51
Risk factors				
Mother's educational attainment				
Less than high school	reference group			
High school	-1.85	1.06	-5.60*	2.15
Some college	0.03	1.12	-3.48	2.28
College/graduate school	0.29	1.15	-4.11	2.40
Household structure				
Two parents	reference group			
One parent	6.75*	0.71	4.40*	1.64
Household income				
$15,000 or less	reference group			
$15,001–25,000	0.22	1.01	-0.07	2.28
$25,001–35,000	-0.23	0.95	-0.34	2.23
$35,001–50,000	-0.48	0.94	0.44	2.14
More than $50,000	1.52	0.94	3.40	1.95

Table A4.—For preschool children under 6 years old in some form of regular nonparental care, coefficients from OLS regression of the number of hours in nonparental care on child and family characteristics, by age: 1995—Continued

Demographic characteristics	All children		Infants (less than 1 year old)	
	b[1]	se	b[1]	se
Household size				
2–3 persons	reference group			
4 persons	-0.44	0.56	0.38	1.35
5 persons	-2.63*	0.73	-2.49	1.85
6 or more persons	0.33	1.09	3.75	2.15
Disabling condition				
None	reference group			
One or more	1.22	0.81	7.52*	3.67
Mother's age at first birth				
Less than 18	reference group			
18–19	-4.59*	1.22	-4.45	2.48
20 or older	-4.47*	1.08	-3.88	2.33

*Coefficient significantly different from 0, $p < .05$.

[1] "b" indicates regression coefficient, a statistic indicating the relationship between the predictor variable and outcome variable, net of all other predictor variables in the model.

NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A5.—Adjusted odds ratio of a preschool child under 6 years old being cared for in no nonparental care arrangement or in two or more nonparental care arrangements, by child and family characteristics: 1995

Demographic characteristics	Contrast to one nonparental care and education arrangement	
	No nonparental care arrangement	Two or more nonparental care arrangements
Age		
2 or younger	reference group	
3–5	0.28*	2.31*
Race–ethnicity		
White, non-Hispanic	reference group	
Black, non-Hispanic	0.86	0.91
Hispanic	0.87	0.90
Other, non-Hispanic	0.82	0.99
Mother's employment status		
35 hours or more per week	reference group	
Less than 35 hours per week	2.65*	1.18
Looking for work	9.12*	0.25*
Not in labor force	14.30*	0.36*
Region		
Northeast	reference group	
Midwest	0.65*	0.88
South	0.79*	1.12
West	0.90	0.98
Urban		
Nonmetropolitan	reference group	
Metropolitan	1.00	0.94
Risk factors		
Mother's educational attainment		
Less than high school	reference group	
High school	0.85	0.96
Some college	0.57*	1.12
College/graduate school	0.49*	1.51
Household structure		
Two parents	reference group	
One parent	0.38*	2.35*
Household income		
$15,000 or less	reference group	
$15,001–25,000	1.04	0.82
$25,001–35,000	0.93	0.81
$35,001–50,000	0.76*	0.97
More than $50,000	0.44*	0.94
Household size		
2–3 persons	reference group	
4 persons	1.12	1.32*
5 persons	1.43*	0.98
6 or more persons	1.61*	1.05

Table A5.—Adjusted odds ratio of a preschool child under 6 years old being cared for in no nonparental care arrangement or in two or more nonparental care arrangements, by child and family characteristics: 1995—Continued

Demographic characteristics	Contrast to one nonparental care and education arrangement	
	No nonparental care arrangement	Two or more nonparental care arrangements
Home language		
English	reference group	
Non English	1.23	0.60*
Disabling condition		
None	reference group	
One or more	0.73*	1.31*
Mother's age at first birth		
Less than 18	reference group	
18–19	1.16	0.78
20 or older	1.19	0.71

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A6.—Adjusted odds ratio of a preschool child under 6 years old having a Head Start program, family child care, or in-home child care or relative care versus another center-based program as the primary arrangement, by child and family characteristics: 1995

Demographic characteristics	Contrast to non-Head Start center-based nonparental care			
	Head Start	Family child care	In-home child care	Relative
Age				
2 or younger	reference group			
3–5	11160.31*	0.20*	0.16*	0.19*
Race–ethnicity				
White, non-Hispanic	reference group			
Black, non-Hispanic	3.03*	0.78	0.33*	1.32
Hispanic	3.84*	1.21	1.24	2.43*
Other, non-Hispanic	3.16*	0.73	0.47	1.71*
Mother's employment status				
35 hours or more per week	reference group			
Less than 35 hours per week	0.86	0.88	1.06	1.07
Looking for work	1.37	0.16*	0.11*	0.30*
Not in labor force	1.58*	0.19*	0.66	0.27*
Region				
Northeast	reference group			
Midwest	0.79	0.88	0.35*	0.56*
South	1.25	2.18*	0.99	0.95
West	0.62	1.53*	1.22	0.70*
Urban				
Nonmetropolitan	reference group			
Metropolitan	0.79	0.78	1.63	0.85
Risk factors				
Mother's educational attainment				
Less than high school	reference group			
High school	0.68	1.01	1.22	0.82
Some college	0.39*	0.87	0.53	0.63*
College/graduate school	0.22*	0.73	1.94	0.34*
Household structure				
Two parents	reference group			
One parent	1.10	0.82	1.38	1.23
Household income				
$15,000 or less	reference group			
$15,001–25,000	0.89	0.89	0.76	0.86
$25,001–35,000	0.68	0.73	0.72	0.76
$35,001–50,000	0.31*	0.86	0.88	0.74
More than $50,000	0.13*	0.66*	1.09	0.47*
Household size				
2–3 persons	reference group			
4 persons	1.09	1.00	2.19*	1.13
5 persons	1.21	0.82	2.83*	1.34
6 or more persons	1.42	0.94	4.17*	1.95*

Table A6.—Adjusted odds ratio of a preschool child under 6 years old having a Head Start program, family child care, or in-home child care or relative care versus another center-based program as the primary arrangement, by child and family characteristics: 1995—Continued

Demographic characteristics	Contrast to non-Head Start center-based nonparental care			
	Head Start	Family child care	In-home child care	Relative
Home language				
English	reference group			
Non English	0.86	1.24	1.14	1.23
Disabling condition				
None	reference group			
One or more	1.94*	0.62*	0.87	0.66*
Mother's age at first birth				
Less than 18	reference group			
18–19	1.01	0.74	0.73	1.03
20 or older	0.66	0.71	0.50	0.70

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model included controls for census region and urbanicity of residence.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A7.—Percentage of preschool children under 6 years old whose parents reported that various child care characteristics were very important in choosing a nonparental care arrangement, by primary arrangement type, parents' source of information about arrangements, and child and family characteristics: 1995

Characteristics	Reasonable cost		Small number of children		Close to home		Sick child care available		Trained provider		English spoken	
	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	64	0.9	68	0.9	57	1.0	49	0.9	77	0.7	84	0.7
Primary arrangement type												
Total center-based	62	1.3	66	1.4	54	1.2	38	1.2	86	1.0	87	0.7
Head Start center	75	2.6	58	3.9	68	2.7	64	3.7	89	2.3	87	2.1
Non-Head Start center	60	1.4	67	1.4	52	1.3	34	1.3	86	1.0	87	0.8
Family child care	63	1.9	71	1.8	56	2.1	47	1.5	61	1.4	82	1.4
Sitter	54	4.7	74	3.3	67	5.2	49	4.0	60	4.6	78	3.5
Relative	70	1.6	68	1.5	62	1.9	67	1.6	76	1.4	83	1.1
Source of Information												
Friends	61	1.4	69	1.2	55	1.3	42	1.2	74	1.2	84	1.0
Employer	53	5.3	70	4.4	41	4.3	34	5.2	83	3.8	79	3.9
School	63	4.0	66	4.2	53	4.1	47	4.7	83	3.0	88	2.3
Church	61	4.1	77	3.4	54	4.1	36	4.3	69	4.1	88	3.0
Advertisement	62	3.4	68	3.1	55	4.1	34	3.0	82	2.4	87	1.7
Agency	59	6.1	69	5.6	58	5.2	41	5.8	78	4.5	80	3.5
Referral Service	57	6.3	69	8.1	55	7.8	32	6.1	81	5.3	86	4.0
Other	66	2.6	67	2.8	56	3.3	42	2.6	85	2.2	85	2.1
Demographic characteristics												
Age												
Less than 1	66	2.2	71	2.1	61	2.6	59	2.5	73	2.2	81	1.8
1	63	2.0	72	1.7	59	2.0	55	1.9	71	1.9	81	1.7
2	66	1.8	71	1.8	55	2.0	52	2.0	74	1.6	84	1.6
3	62	1.8	66	1.8	56	1.8	45	1.5	77	1.8	83	1.5
4	64	1.4	65	1.7	58	1.7	44	1.8	82	1.4	89	1.0
5	61	3.2	66	3.2	52	3.0	40	2.9	82	2.5	84	2.3
Race–ethnicity												
White, non-Hispanic	58	1.2	69	1.0	53	1.3	39	1.1	73	1.0	86	0.8
Black, non-Hispanic	83	1.4	64	2.1	67	2.0	77	1.8	86	1.6	89	1.4
Hispanic	70	1.9	69	2.2	68	1.5	68	2.2	82	1.8	69	2.4
Other, non-Hispanic	67	2.8	68	4.1	56	3.9	50	3.7	80	3.0	75	3.3

Table A7.—Percentage of preschool children under 6 years old whose parents reported that various child care characteristics were very important in choosing a nonparental care arrangement, by primary arrangement type, parents' source of information about arrangements and child and family characteristics: 1995—Continued

Characteristics	Reasonable cost		Small number of children		Close to home		Sick child care available		Trained provider		English spoken	
	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Mother's employment status												
Currently employed	63	1.0	69	0.9	57	1.3	49	1.2	75	0.8	85	0.7
35 hours or more per week	65	1.2	70	1.2	59	1.2	51	1.5	75	1.3	84	0.7
Less than 35 hours per week	60	2.1	69	1.4	54	2.4	45	1.9	75	1.6	86	1.5
Looking for work	77	4.5	52	5.2	60	4.5	70	4.8	85	3.2	84	3.1
Not in labor force	61	2.2	68	2.1	55	2.0	42	2.0	81	1.8	85	1.7
Region												
Northeast	65	2.0	71	2.0	59	2.3	45	2.2	81	1.8	86	1.7
Midwest	65	1.1	70	1.3	58	1.6	55	1.3	79	1.0	85	1.1
South	59	2.0	63	1.7	55	1.7	44	1.9	71	1.8	86	1.6
West	66	1.8	68	2.1	58	1.7	48	2.4	75	1.8	78	1.8
Urban												
Nonmetropolitan	63	2.1	65	2.0	58	1.9	50	2.0	73	2.0	87	1.6
Metropolitan	64	1.0	69	0.9	57	0.9	49	0.9	78	0.8	84	0.8
Mother in household												
No	72	4.3	65	4.5	63	5.2	64	4.9	71	4.1	76	3.7
Yes	64	0.9	68	0.9	57	1.0	49	0.9	77	0.7	85	0.7
Risk factors												
Mother's educational attainment												
Less than high school	77	2.8	62	3.1	71	3.0	73	3.7	81	2.2	86	1.9
High school	71	1.4	66	1.6	60	1.5	59	1.6	79	1.3	87	1.2
Some college	64	1.6	70	1.3	55	2.2	48	2.1	78	1.2	86	1.3
College/graduate school	48	2.0	72	1.3	49	2.0	26	1.5	71	1.6	80	1.3
Household structure												
Two parents	58	1.0	70	1.0	55	1.2	42	1.0	74	0.9	84	0.8
One parent	78	1.4	63	1.7	63	1.8	67	1.6	83	1.2	85	1.2
Household income												
$15,000 or less	82	1.5	63	2.0	68	1.9	70	2.0	83	1.6	84	1.4
$15,001–25,000	75	2.2	69	2.1	61	2.7	60	2.9	80	2.0	83	2.2
$25,001–35,000	64	1.7	65	2.4	55	2.3	54	1.8	77	1.9	86	1.6
$35,001–50,000	61	1.8	71	1.6	54	2.0	45	1.9	74	2.0	85	1.5
More than $50,000	48	1.5	72	1.4	51	1.8	28	1.3	72	1.3	84	1.2

Table A7.—Percentage of preschool children under 6 years old whose parents reported that various child care characteristics were very important in choosing a nonparental care arrangement, by primary arrangement type, parents' source of information about arrangements, and child and family characteristics: 1995—Continued

Characteristics	Reasonable cost		Small number of children		Close to home		Sick child care available		Trained provider		English spoken	
	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
In poverty												
Yes	59	1.6	70	2.1	54	1.9	44	2.2	75	1.7	84	1.5
No	81	1.0	62	0.9	68	1.1	69	0.9	83	0.8	84	0.8
Household size												
2-3 persons	67	1.3	69	1.5	57	1.3	54	1.3	76	1.2	83	1.1
4 persons	61	1.4	67	1.3	55	1.6	44	1.6	77	1.2	86	1.1
5 persons	62	2.2	70	2.2	57	2.2	48	2.3	77	1.9	84	1.8
6 or more persons	68	3.2	63	3.7	65	2.8	54	3.8	76	2.3	82	2.1
Home language												
English	63	0.9	68	0.9	56	1.1	47	0.9	77	0.8	86	0.7
Non English	71	2.8	71	3.4	73	2.8	69	3.2	80	2.6	69	2.8
Disabling condition												
None	64	0.9	68	0.9	57	1.1	49	0.8	76	0.8	84	0.7
One or more	64	3.2	67	2.3	62	2.6	54	2.8	84	2.0	84	1.9
Mother's age at first birth												
Less than 18	73	3.2	61	3.4	68	2.8	73	3.7	80	2.7	86	2.4
18-19	75	2.0	64	1.9	65	2.1	67	2.4	79	2.3	87	1.7
20 or older	60	1.1	70	0.9	54	1.1	42	1.0	76	0.9	84	0.8
Number of risk factors												
None	55	1.1	71	1.1	52	1.6	37	1.2	73	1.2	86	0.9
One	66	1.7	69	1.5	56	1.8	50	1.9	78	1.6	81	1.3
Two or more	78	1.6	61	1.9	68	1.4	69	2.1	82	1.4	85	1.2

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A8.—Percentage of preschool children under 6 years old whose parents reported learning about their children's primary arrangements from various sources of information, by primary arrangement type and child and family characteristics: 1995

Characteristics	Friends		Employer		School		Church		Advertisement		Agency		Referral service		Other	
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Total	59	1.1	4	0.4	6	0.5	5	0.4	10	0.7	4	0.4	2	0.3	16	0.9
Primary arrangement type																
Total center-based	52	1.2	5	0.6	9	0.7	5	0.5	11	0.9	2	0.4	3	0.4	19	1.2
Head Start center	47	3.7	0	0.0	16	2.6	0	0.0	9	2.0	3	1.2	4	1.5	26	3.2
Non-Head Start center	53	1.3	6	0.7	8	0.7	6	0.6	11	1.0	2	0.4	2	0.4	18	1.2
Family child care	75	1.7	2	0.6	1	0.4	5	1.0	7	1.1	5	0.8	1	0.2	10	1.4
Sitter	61	3.7	0	0.0	2	1.3	5	1.9	16	2.7	9	2.6	0	0.0	9	2.6
Relative	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Demographic characteristics																
Age																
Less than 1	63	3.6	6	1.8	1	0.7	5	1.3	13	2.6	4	1.3	1	0.4	14	2.2
1	63	2.7	5	1.2	2	0.7	6	1.4	8	1.3	8	1.6	1	0.5	13	2.0
2	65	2.4	4	0.9	3	0.9	6	0.9	10	1.3	3	0.7	1	0.3	14	1.7
3	60	2.0	4	0.8	5	0.9	6	0.9	10	1.4	3	0.8	3	0.7	15	1.5
4	55	1.8	3	0.5	10	1.1	4	0.7	11	1.1	3	0.6	2	0.6	18	2.0
5	53	2.7	5	1.3	12	2.0	5	1.4	10	1.5	1	0.7	2	0.9	17	2.5
Race–ethnicity																
White, non-Hispanic	61	1.2	4	0.5	5	0.5	5	0.6	10	0.8	4	0.4	2	0.3	15	1.0
Black, non-Hispanic	54	3.1	2	1.0	6	1.4	6	1.3	9	2.3	4	1.1	2	0.6	20	2.2
Hispanic	59	2.9	4	0.9	12	1.8	4	1.0	8	1.4	2	0.7	3	1.2	14	1.8
Other, non-Hispanic	62	5.0	5	2.1	8	2.4	3	1.3	12	3.4	4	1.5	2	1.0	14	3.0
Mother's employment status																
Currently employed	62	1.2	5	0.6	4	0.4	5	0.6	11	0.9	4	0.5	2	0.3	13	1.1
35 hours or more per week	62	1.5	6	0.7	3	0.5	4	0.6	10	1.1	5	0.5	2	0.3	15	1.3
Less than 35 hours per week	63	2.0	5	0.7	6	1.0	7	1.0	12	1.6	4	1.0	1	0.4	9	1.1
Looking for work	45	5.5	0	0.0	9	2.7	3	1.7	12	4.4	5	2.3	2	1.4	27	4.5
Not in labor force	56	2.0	1	0.4	11	1.3	7	1.0	8	1.0	2	0.5	3	0.6	19	2.0

Table A8.—Percentage of preschool children under 6 years old whose parents reported learning about their children's primary arrangements from various sources of information, by primary arrangement type and child and family characteristics: 1995—Continued

Characteristics	Friends		Employer		School		Church		Advertisement		Agency		Referral service		Other	
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Region																
Northeast	58	2.4	3	0.8	8	1.3	4	1.0	13	1.6	5	1.1	3	0.7	16	2.0
Midwest	59	1.8	5	0.9	5	0.7	7	0.8	9	1.3	3	0.7	2	0.5	18	1.6
South	62	2.2	4	0.8	6	1.3	4	0.8	9	1.4	3	0.7	2	0.5	13	1.8
West	58	2.2	4	0.7	6	1.0	5	1.0	10	1.2	4	0.8	1	0.5	15	1.6
Urban																
Nonmetropolitan	63	2.1	4	1.0	7	1.3	5	0.9	10	1.4	2	0.7	1	0.5	15	2.0
Metropolitan	59	1.2	4	0.4	6	0.4	6	0.5	10	0.8	4	0.5	2	0.3	16	1.0
Mother in household																
No	59	5.9	4	2.4	8	2.9	4	2.0	8	3.1	0	0.0	4	1.7	18	4.7
Yes	60	1.1	4	0.4	6	0.5	5	0.5	10	0.7	4	0.4	2	0.3	15	0.9
Risk factors																
Mother's educational attainment																
Less than high school	49	3.6	1	0.4	11	2.3	3	1.4	7	2.4	4	1.4	0	0.0	27	3.6
High school	62	1.7	3	0.8	7	0.9	5	0.8	11	1.4	3	0.6	2	0.5	14	1.3
Some college	58	2.4	5	0.8	6	0.9	6	0.9	11	1.3	3	0.8	1	0.4	17	1.8
College/graduate school	62	1.6	5	0.9	4	0.5	6	0.9	10	1.1	5	0.8	2	0.5	12	1.2
Household structure																
Two parents	61	1.1	4	0.4	6	0.4	6	0.6	10	0.7	4	0.5	2	0.3	13	0.9
One parent	55	2.7	3	0.8	7	1.2	2	0.5	10	1.6	4	0.9	1	0.5	22	2.4
Household income																
$15,000 or less	53	3.0	2	0.7	9	1.2	4	1.0	11	2.1	4	0.9	2	0.6	24	2.8
$15,001–25,000	56	3.4	5	1.1	8	1.4	5	1.5	9	1.6	4	1.3	0	0.3	16	2.2
$25,001–35,000	62	2.5	4	0.8	6	1.1	4	1.2	8	1.2	3	0.8	2	0.7	13	1.8
$35,001–50,000	67	1.9	6	1.0	5	0.8	6	1.2	11	1.3	3	0.8	1	0.3	11	1.9
More than $50,000	60	1.2	4	0.7	4	0.6	6	0.8	11	1.0	4	0.7	3	0.5	14	1.2
In poverty																
Yes	52	3.2	2	0.8	10	1.3	4	1.0	11	2.3	4	0.9	2	0.6	24	2.9
No	61	1.0	4	0.4	5	0.5	6	0.5	10	0.6	4	0.4	2	0.3	14	0.8

Table A8.—Percentage of preschool children under 6 years old whose parents reported learning about their children's primary arrangements from various sources of information, by primary arrangement type and child and family characteristics: 1995—Continued

Characteristics	Friends		Employer		School		Church		Advertisement		Agency		Referral service		Other	
	Percent	se*	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se	Percent	se
Household size																
2–3 persons	65	2.0	4	0.7	5	0.7	4	0.7	10	1.0	5	0.8	3	0.5	13	1.3
4 persons	58	1.5	4	0.7	5	0.6	5	0.7	10	1.0	3	0.6	1	0.4	17	1.5
5 persons	53	2.4	5	1.4	9	1.7	7	1.2	12	1.9	2	0.7	1	0.6	17	1.7
6 or more persons	57	3.9	2	1.0	8	1.7	5	1.4	6	1.4	6	1.8	3	1.1	16	3.1
Home language																
English	59	1.2	4	0.5	6	0.5	5	0.5	10	0.7	4	0.4	2	0.3	16	0.9
Non English	62	4.4	3	1.4	10	2.1	6	2.0	7	1.6	0	0.0	3	1.8	13	2.8
Disabling condition																
None	61	1.2	4	0.5	5	0.5	6	0.5	10	0.7	4	0.4	2	0.3	15	1.0
One or more	50	2.9	3	0.9	13	1.8	2	0.8	12	1.9	3	0.8	2	1.0	20	3.0
Mother's age at first birth																
Less than 18	51	4.0	1	0.6	7	2.0	2	0.8	8	2.6	4	1.7	2	1.1	28	3.9
18–19	60	3.2	4	1.3	10	2.3	3	1.1	9	2.8	2	0.9	2	0.8	17	2.3
20 or older	60	1.1	4	0.5	5	0.4	6	0.6	11	0.8	4	0.4	2	0.3	14	0.8
Number of risk factors																
None	63	1.2	5	0.6	4	0.4	7	0.7	10	0.8	4	0.5	2	0.4	12	1.0
One	59	2.1	4	0.8	8	1.0	4	0.8	10	1.2	3	0.7	2	0.5	15	1.6
Two or more	52	2.4	2	0.7	10	1.3	3	0.8	9	1.5	4	1.0	1	0.5	24	2.4

—Too few cases for a reliable estimate.

*In all instances, "se" indicates standard error. Standard errors less than .05 were rounded to 0.0.

NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A9.—Coefficients from OLS regression of cost of primary arrangement on characteristics of primary arrangement: 1995

Characteristic of primary arrangement	b[1]	se
Child/staff ratio	-0.01	0.01
Whether provided sick child care	-0.10	0.07
Number of services[2]	-0.21*	0.05
Whether less than 10-minute commute	0.21*	0.06
Whether provider educated or trained in child development	0.17*	0.09
Whether parent involvement encouraged[2]	-0.03	0.13
Whether provider spoke English	0.06	0.16

*Coefficient significantly different from 0, $p < .05$.

[1] "b" indicates regression coefficient, a statistic indicating the relationship between the predictor variable and outcome variable, net of all other predictor variables in the model.

[2] Applies to center-based programs only.

NOTE: A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model controlled for age of child, race–ethnicity, mother's employment status, census region and urbanicity of residence, mother's educational attainment, number of parents present in the household, household income, household size, language spoken in the home, disability status of the child, mother's age at first birth, and primary arrangement type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A10.—Coefficients from OLS regressions of cost, child/staff ratio, and number of services of preschool children's primary arrangements on parental preferences, and adjusted odds ratio of children's primary arrangements having various characteristics, by parents' preferences for child care characteristics: 1995

Characteristics	Cost[1]		Child/staff ratio[1]		Number of services		Less than 10-minute commute[3]	Provides sick child care[3]	Provider educated or trained[3]	Parent involvement encouraged[2,3]	English spoken[3]
	b[4]	se	b[4]	se	b[4]	se	Odds ratio	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Not controlling for type of primary arrangement											
Parental preferences[5]											
Close to home	-0.10	0.09	-0.14	0.11	0.02	0.06	2.57*	1.05	0.91	0.84	0.98
Reasonable cost	-0.07	0.10	0.15	0.11	-0.11	0.06	0.85	1.00	0.94	1.12	0.92
English spoken	-0.01	0.09	0.19	0.14	0.14	0.07	1.09	0.88	1.07	0.93	3.26*
Small number of children	0.06	0.08	-0.28*	0.11	0.08	0.06	0.98	1.09	1.02	1.03	0.86
Sick child care available	-0.23*	0.09	-0.76*	0.11	0.21*	0.07	0.71*	3.40*	0.55*	1.25	0.46*
Trained provider	0.13	0.09	0.72*	0.11	0.26*	0.07	0.75*	0.50*	5.30*	1.73*	1.41
Controlling for type of primary arrangement											
Parental preferences[5]											
Close to home	-0.10	0.08	-0.02	0.09	0.01	0.05	2.58*	0.92	1.01	0.82	1.10
Reasonable cost	-0.07	0.09	0.09	0.09	-0.10	0.06	0.85	1.06	0.85	1.14	0.94
English spoken	-0.01	0.08	0.03	0.12	0.16*	0.07	1.12	1.06	0.83	0.96	3.31*
Small number of children	0.06	0.08	-0.16	0.09	0.09	0.06	0.95	0.92	1.25	1.04	0.89
Sick child care available	-0.09	0.09	-0.12	0.09	0.17*	0.07	0.68*	3.09*	0.92	1.21	0.59*
Trained provider	0.10	0.08	0.12	0.09	0.27*	0.07	0.83	0.79*	5.41*	1.76*	1.18

*For OLS regression coefficients, indicates coefficient significantly different from 0, $p < .05$. For odds ratios, indicates that the odds compared with the reference group are statistically significant at .05 level.

[1] OLS Regression model with the dependent variable measured as a continuous variable.

[2] Includes children in center-based programs only.

[3] Logit model with the dependent variable measured as a dichotomous variable.

[4] "b" indicates regression coefficient, a statistic indicating the relationship between the predictor variable and outcome variable, net of all other predictor variables in the model.

[5] Parental preferences are coded as binary such that the response category "very important" is contrasted with the categories "somewhat important" and "not important."

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model controlled for age of child, race–ethnicity, mother's employment status, census region and urbanicity of residence, mother's educational attainment, number of parents present in the household, household income, household size, language spoken in the home, disability status of the child, and mother's age at first birth.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

Table A11.—Adjusted odds ratio of a preschool child under 6 years old having a Head Start program, family child care, or in-home child care or relative care versus another center-based program as the primary arrangement, by parental preferences and child and family characteristics: 1995

Characteristics	Contrast to non-Head Start center-based nonparental care			
	Head Start	Family child care	In-home child care	Relative
Parental preferences[1]				
Close to home	1.31	1.11	1.98*	1.14
Reasonable cost	0.82	1.04	0.72	0.92
English spoken	1.04	0.72*	0.65	0.72*
Small number of children	0.89	1.41*	1.54	1.20
Sick child care available	1.38	1.87*	2.68*	2.93*
Trained provider	0.94	0.25*	0.24*	0.40*
Demographic characteristics				
Age				
2 or younger	reference group			
3–5	11579.63*	0.21*	0.18*	0.20*
Race–ethnicity				
White, non-Hispanic	reference group			
Black, non-Hispanic	2.84*	0.77	0.30*	1.13
Hispanic	3.73*	1.19	1.16	2.19*
Other, non-Hispanic	3.12*	0.72	0.48	1.61*
Mother's employment status				
35 hours or more per week	reference group			
Less than 35 hours per week	0.91	0.94	1.18	1.16
Looking for work	1.37	0.17*	0.11*	0.31*
Not in labor force	1.59*	0.19*	0.73	0.28*
Region				
Northeast	reference group			
Midwest	0.76	0.79	0.31*	0.51*
South	1.28	2.10*	0.98	0.94
West	0.61	1.40	1.09	0.65*
Urban				
Nonmetropolitan	reference group			
Metropolitan	0.82	0.83	1.78*	0.90
Risk factors				
Mother's educational attainment				
Less than high school	reference group			
High school	0.67	1.03	1.23	0.83
Some college	0.40*	0.89	0.53	0.67
College/graduate school	0.24*	0.76	2.07	0.39*
Household structure				
Two parents	reference group			
One parent	1.13	0.87	1.57	1.25
Household income				
$15,000 or less	reference group			
$15,001–$25,000	0.96	0.91	0.78	0.87
$25,001–$35,000	0.71	0.78	0.84	0.79
$35,001–$50,000	0.32*	0.88	0.94	0.78
More than $50,000	0.13*	0.71	1.24	0.53*

Table A11.—Adjusted odds ratio of a preschool child under 6 years old having a Head Start program, family child care, or in-home child care or relative care versus another center-based program as the primary arrangement, by parental preferences and child and family characteristics: 1995—Continued

Characteristics	Contrast to non-Head Start center-based nonparental care			
	Head Start	Family child care	In-home child care	Relative
Household size				
2 persons		reference group		
4 persons	1.12	1.04	2.32*	1.17
5 persons	1.22	0.81	2.72*	1.32
6 or more persons	1.49	0.98	4.50*	2.10*
Home language				
English		reference group		
Non English	0.79	1.06	0.88	1.01
Disabling condition				
None		reference group		
One or more	1.89*	0.64*	0.90	0.64*
Mother's age at first birth				
Less than 18		reference group		
18–19	1.06	0.79	0.80	1.06
20 or older	0.71	0.80	0.62	0.79

*Indicates that the odds compared with the reference group are statistically significant at .05 level.

[1] Parental preferences are coded as binary such that the response category "very important" is contrasted with the categories "somewhat important" and "not important."

NOTE: Sample includes only children who were in a nonparental care arrangement or early childhood education program on a regular basis. A child's "primary arrangement" was defined as the regular nonparental care arrangement or early childhood education program in which the child spent the most time per week. Model controlled for age of child, race–ethnicity, mother's employment status, census region and urbanicity of residence, mother's educational attainment, number of parents present in the household, household income, household size, language spoken in the home, disability status of the child, and mother's age at first birth.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1995, Early Childhood Program Participation Component.

APPENDIX B: TECHNICAL NOTES AND METHODOLOGY

DATA SOURCE—1995 NATIONAL HOUSEHOLD EDUCATION SURVEY

The National Household Education Survey (NHES:95) is a random digit dial (RDD) telephone survey conducted for NCES by Westat, Inc. The survey was conducted with a sample drawn from the noninstitutionalized civilian population in households with telephones in the 50 states and the District of Columbia from January through April of 1995. The data were collected using computer-assisted telephone interviewing (CATI) technology. As in 1991, NHES:95 included an Early Childhood Program Participation (ECPP) component, which surveyed the parents of children aged 10 or younger as of December 1994 and in third grade or below, and an Adult Education (AE) component, which surveyed adults aged 16 years or older who were not enrolled in elementary or secondary education and were enrolled in adult or postsecondary education and living at home. This report presents findings from the ECPP component only.

NHES:95 interviews began with the interviewer determining whether any household members were eligible for either the ECPP or the AE interview by listing all household members and obtaining their ages and genders. No more than two ECPP interviews were completed per household: in households in which more than two children were eligible for the ECPP interview, two children were sampled from the total number eligible. Once children were sampled, the interviewer determined which adult household member was most knowledgeable about each sampled child's care and education. In most cases, this adult was the child's mother.

Because the sample included only households with telephones, the estimates were adjusted to represent all households, including those without telephones, using estimates from the October 1993 and February 1995 Current Population Survey (CPS). The adjustments weighted interview respondents to known CPS totals on race–ethnicity and income, census region and urbanicity, and home ownership status and age.

SURVEY CONTENT

Following determination of eligibility based on the child's month and year of birth, data were collected on household composition and the child's parents' characteristics. At this stage the interview took one of five routes: infant/toddler, preschool, kindergarten, primary school, or home school. This study concentrates on those children who are not yet enrolled in kindergarten; therefore, it uses information from the infant/toddler and the preschool paths. The infant/toddler path was for children ages 2 years or younger and the preschool path was for those children who were aged 3 to 5 years old and not yet attending kindergarten or primary school. Both of these paths collected information about the following topics: (a) current nonparental care and early education arrangements, including care by relatives or nonrelatives, participation in day care centers, and enrollment in nursery schools, prekindergartens, and Head Start programs; (b) parent preferences for child care arrangements; (c) the continuity of child care arrangements since September 1994 and information on planned or current kindergarten enrollment; (d) a series of items on the home environment, including activities with family members; (e) the child's health and disability status; and (f) family status variables (i.e., household income, parental education, and labor force status).

DATA RELIABILITY

Estimates produced using data from surveys are subject to two types of error, sampling and nonsampling. Sampling error occurs because the data are collected from a sample rather than a census of the population. Nonsampling errors occur during the collection and processing of data.

Nonsampling Errors

Nonsampling error refers to variations in estimates which may be caused by coverage, data collection, processing, and reporting procedures. The sources of nonsampling errors typically include: (a) unit and item nonresponse, (b) differences in respondents' interpretation of the meaning of the questions, (c) response differences related to the particular time the survey was conducted, and (d) mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. In the NHES:95 data collection, efforts were made to minimize the occurrence of nonsampling errors and to compensate for them where possible. For instance, during the survey design phase, cognitive laboratories and focus groups, over 500 hours of CATI instrument testing, and a pretest of more than 200 households were used to check for consistency of interpretation of items and to eliminate ambiguity in items.

A specific issue that readers should be aware of is the ambiguity associated with identifying a child's school enrollment status as opposed to participation in early childhood care arrangements. Some parents may think of nursery school or prekindergarten as school, but may not think of day care centers as school. Early in the NHES:95, respondents were asked if their child was enrolled in school and, if so, the child's current grade. Later in the interview, respondents were asked to indicate if their child was enrolled in a variety of early childhood nonparental care arrangements. The results of the survey suggest that there is some inconsistency between the responses to these items. Some respondents (72) indicated that their child was enrolled in school with a grade of nursery school, preschool, prekindergarten, or Head Start, but later reported that their child was not enrolled in either a Head Start program or a center-based program. Conversely, other respondents (216) reported that their preschoolers were not enrolled in school, but later reported that they were participating in Head Start, a center-based program, or both. To ensure that this analysis is inclusive of all types of center-based early childhood programs, this report relies on the variables HSNOW and CPNNOW to identify all those who were preschoolers enrolled in nonparental center-based care arrangements. Additional information on this matter is provided in the *NHES:95 Early Childhood Program Participation Data File User's Manual* (Collins et al. 1996).

Another issue that readers should be aware of is the ambiguity associated with describing and classifying center-based programs for children. As a result of experience with previous NHES studies and cognitive laboratory work indicating that parents perceive few differences between various types of center-based programs, information on all center-based programs was collected together. The only distinction that is made is between Head Start programs and non-Head Start center-based programs. This distinction is maintained throughout the analysis, except when analyses are conducted for all center-based programs.

Sampling Errors

The sample of telephone households selected for NHES:95 is just one of the many possible samples of telephone households that could have been selected. Thus, estimates produced from the NHES:95 sample may differ from estimates that would have been produced from other samples. This type of variability is called sampling error because it arises from using a sample of persons (or households), rather than all persons (or households).

The standard error is a measure of the variability due to sampling when estimating a statistic such as a population total or a percentage. For each statistic, it indicates how much variance there is in the population of possible estimates for a given sample size. Standard errors can be used as a measure of the precision of a particular sample. The probability that a statistic from a complete census would differ from the sample statistic by less than one standard error is about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100; and that the difference would be less than 1.96 times the standard error, about 95 out of 100.

Because the NHES:95 used a list-assisted method of random-digit-dialing (RDD) sampling, the direct estimates of sampling errors for the estimates cannot be based on the assumptions of simple random sampling. Various factors, including noncoverage of households with unlisted numbers, oversampling to improve estimates of blacks and Hispanics, the use of the list-assisted Mitofsky-Waksberg approach, and nonlinear estimation procedures, all contribute to deviations from simple random sampling.

One method used for computing sampling errors to reflect these aspects of the sample design and the estimation procedures is called jackknife replication. In this method, the sample is divided into groups of replicates based upon the original sample of phone numbers. A replicate weight is developed for each replicate sample using the same procedures used for the full sample. This procedure is repeated for each replicate. Additional information on this matter is provided in the *NHES:95 Early Childhood Program Participation Data File User's Manual* (Collins et al. 1996).

Estimates are then produced for each replicate using the replicate weights and compared to the full sample estimate in order to estimate the sampling error of the statistic. For the bivariate statistics, the computation of the replicate estimates, comparison to the full sample estimate, and the computation of the estimated sampling error for the statistic was done using the SAS procedure REPTAB, specifying the JK1 option. For the multivariate analyses, the Taylor series method of estimating standard errors was employed using the REGRESS, LOGISTIC, and MULTILOG procedures of the software SUDAAN 7.0.

Response Rates

NHES:95 completed screening interviews with 45,465 households. The weighted response rate for the screening of households was an estimated 73.3 percent.

A total of 14,064 interviews were completed for children who were sampled and identified as eligible for the ECPP component of the survey. The weighted completion rate for the ECPP interview, or the percent of interviews conducted for eligible children, was 90.4 percent. The overall weighted response rate for the ECPP interview was 66.3 percent, the product of the household screening response rate and the ECPP interview completion rate.

For the NHES:95 ECPP component, the item response rate (the number of completed data items divided by the number of items that could have been completed) is in excess of 95 percent for nearly every item.

VARIABLES USED[1]

Classification variables were created to describe the characteristics of children, their mothers, and their families. These variables were then examined in relation to several outcome variables, including whether a child was enrolled in an early care or education program, the number of programs in which the child was enrolled, the characteristics of the programs, and the parents' preferences regarding child care and education programs.

Due to differences in the kinds of variables required for the computation of various statistics, some of these variables were defined in multiple categories for the bivariate analyses and then dichotomized for the multivariate analyses (logistic regressions). The section below describes the variables used in both types of analyses. The names of variables that were used as they existed on the file are in capital letters, and the names of variables that were created for these analyses from variables given on the file are in capital letters and in parentheses.

Weights

Analyses were conducted using the final child weight EWEIGHT.

Demographic Characteristics

AGE94

Child's age was determined using the variable AGE94, which represents the age of the child as of December 31, 1994, and was calculated from the child's birth month and year as reported by the respondent.

(AGEGRP)

Child's age was dichotomized using the variable AGE94 as follows:

0 = <1, 1, 2	AGE94 = 0, 1, 2
1 = 3, 4, 5	AGE94 = 3, 4, 5

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[1] For detailed information about all the variables in the NHES Preprimary data file, consult M.A. Collins, J.M. Brick, L.S. Loomis, S. Gilmore, and K. Chandler. *National Household Education Survey of 1995: Early Childhood Program Participation Data File User's Manual*. NCES Publication 96-825 (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1996).

MOMEMPLD

The composite variable MOMEMPLD was used to measure the mother's work status as follows:

1 = Working 35 hours per week or more
2 = Working less than 35 hours per week
3 = Looking for work
4 = Not in labor force

(MWORKST)

Mother's work status was dichotomized using MOMEMPLD as follows:

0 = currently not working	MOMEMPLD = 3 or 4
1 = currently working	MOMEMPLD = 1 or 2

CENREG

Census region in which the subject lives was based on the variable CENREG as follows:

1 = Northeast
2 = South
3 = Midwest
4 = West

URBAN

Urbanicity of residence was based on the variable URBAN as follows:

0 = non-Metropolitan Statistical Area
1 = Metropolitan Statistical Area[2]

(MUSBORN)

Mother born in the United States dichotomized MOMBORN (N5) as follows:

0 = foreign born	MOMBORN = 3
1 = U.S. born	MOMBORN = 1, 2

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[2] Metropolitan Statistical Areas are defined by the Office of Management and Budget for use in the presentation of statistics by agencies of the Federal Government. An MSA is a geographical area consisting of a large population nucleus, together with adjacent communities which have a high degree of economic and social integration with that nucleus.

(MOTHER)

Presence of mother in household dichotomized HHMOM as follows:

0 = no	HHMOM = 2, 3
1 = yes	HHMOM = 1

Risk Factors

(HOUSEINC)

Household Income (HOUSEINC) was constructed from HINCOME as follows:

1 = $15,000 or less	HINCOME = 1, 2, or 3
2 = $15,001–$25,000	HINCOME = 4 or 5
3 = $25,001–$35,000	HINCOME = 6 or 7
4 = $35,001–$50,000	HINCOME = 8 or 9
5 = more than $50,000	HINCOME = 10 or 11

(POVERTY)

Children's families were classified as poor or not poor using derived variable POVERTY as follows:

0 = no, child does not live in poverty	POVERTY = 2
1 = yes, child lives in poverty	POVERTY = 1

(HOMELANG)

Home language (HOMELANG) was constructed from MOMLANG (mother's first language) and MOMSPEAK (language mother spoke most at home) as follows:

0 = English	MOMLANG = English or MOMLANG= not English and MOMSPEAK = English
1 = Not English	MOMLANG = not English and MOMSPEAK = Spanish, or an Asian or other language

(FAMTYPE)

Family composition (FAMTYPE) was created by recoding FAMILY as indicated below. Stepparents who lived in the household with the child were counted as parents for this analysis.

0 = No parent (not used in analyses)	FAMILY = 5
1 = One parent	FAMILY = 1, 2
2 = Two parents	FAMILY = 3, 4

(PARDICH)

Family composition was dichotomized by recoding FAMTYPE as follows:

0 = 2 parents	FAMTYPE = 2
1 = 1 parent	FAMTYPE = 1

(NOHSEHLD)

Household size (NOHSEHLD) was constructed from NUMPERS as follows:

1 = Two or three	NUMPERS = 2 or 3
2 = Four	NUMPERS = 4
3 = Five	NUMPERS = 5
4 = Six or more	NUMPERS = 6

(NOHODICH)

Household size was dichotomized (NOHODICH) by recoding NOHSEHLD as follows:

0 = 5 or fewer members	NOHSEHLD = 1, 2, or 3
1 = 6 or more members	NOHSEHLD = 4

(MOMED)

Mother's education (MOMED) was constructed from MOMGRADE as follows:

1 = Less than high school diploma	MOMGRADE = 1, 2, 3
2 = High school or equivalent	MOMGRADE = 4, 5, 6
3 = Some college	MOMGRADE = 7, 8
4 = College or graduate school	MOMGRADE = 9, 10, 11, 12, 13

(MOMEDICH)

Mother's education (MOMEDICH) was dichotomized as follows:

0 = At least high school diploma or GED	MOMED = 2, 3, or 4
1 = Did not complete high school or earn GED	MOMED = 1

(TEENMOM)

Mother's age at first becoming a parent (TEENMOM) used MOMNEW as follows:

1 = Less than 18	MOMNEW = 11 through 17
2 = 18–19	MOMNEW = 18 or 19
3 = 20 and over	MOMNEW = 20 or greater

(MAGEDICH)

Mother's age at first becoming a parent was dichotomized by recoding TEENMOM as follows:[3]

0 = 18 or older	TEENMOM = 2 or 3
1 = Younger than 18	TEENMOM = 1

(RACEETHY)

Two NHES questions concerning children's racial–ethnic backgrounds were combined to create one race–ethnicity variable that distinguished among various minority groups. Race–ethnicity (RACEETHY) was constructed from CHISPANIC (A4) and CRACE (A3) as follows:

1 = White, non-Hispanic	CHISPANIC = no and CRACE = white
2 = Black, non-Hispanic	CHISPANIC = no and CRACE = black
3 = Other	CHISPANIC = no and CRACE = Asian/Pacific Islander, Native American, Alaskan Native, or some other race
4 = Hispanic	CHISPANIC = yes

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[3] Mothers 18 years or older are more likely to have graduated from high school or received a GED, and are more likely to have been married when they first became parents. Consequently, children of mothers who were 18 when they first became parents are not at as great a risk as children whose mothers were younger than 18 when they first became parents (see, for example, Hofferth and Moore 1979). Therefore, only children whose mothers were less than 18 years old when they first became parents were counted as being at risk in the dichotomized variable.

(RACEDICH)

Race–ethnicity was dichotomized (RACEDICH) by recoding RACEETHY as follows:

0 = White, non-Hispanic; Asian/Pacific Islander, or Other	RACEETHY = 1 or 3
1 = Black, non-Hispanic or Hispanic	RACEETHY = 2 or 4

(DISDICH)

Disabling condition (DISDICH) was a dichotomous variable created from parental report (M4 and M6) that the child has any of a list of specific disabling conditions:

1 = One disability or more	HDLEARN = 1 or HDRETARD = 1 or HDSPEECH = 1 or HDDISTRB = 1 or HDDEAF = 1 or HDHEAR = 1 or HDBLIND = 1 or HDVISUAL = 1 or HDORTHO = 1 or HDOTHER = 1 or HDDEVEL = 1
0 = All else	

(RISKFACT)

The risk factor summary (RISKFACT) was constructed from the following variables: (DISDICH), (HOMELANG), (MAGEDICH), (MOMEDICH), (NOHODICH), (PARDICH), and (POVERTY). For each case, RISKFACT was computed by summing the individual's values for each of the 7 variables listed above. Thus the variable could take on values ranging from 0 to 7. In cases where children were not living with their mothers or stepmothers, RISKFACT had a maximum value of 4. These children had missing values for the variables that required data about their mothers or stepmothers (HOMELANG), (MOMEDICH), and (MAGEDICH).

Outcome Variables

Enrollment Variables

(KINDER)

Enrollment in kindergarten (KINDER) was constructed from ALLGRADE as follows:

1 = enrolled in kindergarten	ALLGRADE = K or T or P
0 = not enrolled in kindergarten	ALLGRADE not equal to K, T or P

(ECENROL)

Regular enrollment in an early childhood education program or in the care of a nonparent (ECENROL) was constructed using the enrollment variables RCNOW, NCNOW, HSNOW, and CPNNOW, and the frequency of participation variables RCWEEK, NCWEEK, HSWEEK, and CPWEEK as follows:

1 = Attending an early care or education program	RCNOW=1 and RCWEEK=1, or NCNOW=1 and NCWEEK=1, or HSNOW=1 and HSWEEK=1, or CPNNOW=1 and CPWEEK=1
0 = Not attending an early care or education program	(RCNOW=2, NCNOW=2, HSNOW=2, and CPNNOW=2) or (RCNOW=1 and RCWEEK≠1) or (NCNOW=1 and NCWEEK≠1) or (HSNOW=1 and HSWEEK≠1) or (CPNNOW=1 and CPWEEK≠1)

(CENTER1)

Enrollment in a non-Head Start center-based preschool program (CENTER1) was constructed from CPNNOW and CPWEEK1 as follows:[4]

1 = enrolled in preschool	CPNNOW = 1 and CPWEEK1 = 1
0 = not enrolled in preschool	CPNNOW ≠ 1 or CPWEEK1 ≠1

(CENTER2)

Enrollment in a second non-Head Start center-based program, if applicable. Coding same as (CENTER1).

(HDSTART)

Enrolled in a Head Start program was constructed from HSNOW and HSWEEK1 as follows:

1 = in Head Start	HSNOW = 1 and HSWEEK1 = 1
0 = not in Head Start	HSNOW = 2 or (HSNOW = 1 and HSWEEK1 ≠ 1)

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[4] Note that this variable was used only in analyses of children who were not enrolled in kindergarten, with kindergarten enrollment defined as given above.

(ALLCEN)

Enrollment in any center-based preschool program, including Head Start programs, (ALLCEN) was constructed from CPNNOW and HSNOW as follows:[5]

1 = enrolled in preschool	CENTER1 = 1 or CENTER2 = 1 or HDSTART = 1
0 = not enrolled in preschool	CENTER1 ≠ 1 and CENTER2 ≠ 1 and HDSTART ≠ 1

(RELAT1)

In the care of a relative (RELAT1) was constructed from RCNOW and RCWEEK as follows:

1 = in relative care	RCNOW = 1 and RCWEEK = 1
0 = not in relative care	RCNOW = 2 or RCWEEK ≠ 1

(RELAT2)

In the case of a second relative, if applicable. Coding same as (RELAT1).

(FDC1)

In the care of a family day-care provider (FDC1) was constructed from NCNOW, NCWEEK, and NCPLACE as follows:

1 = enrolled in family day care	NCNOW = 1 and NCWEEK1 = 1 and NCPLACE = 2
0 = not enrolled in family day care	else

(FDC2)

In the care of a second family day-care provider, if applicable. Coding same as (FDC1).

(SITTER1)

In the care of a sitter was constructed from NCNOW, NCWEEK, and NCPLACE as follows:

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[5] Note that this variable was used only in analyses of children who were not enrolled in kindergarten, with kindergarten enrollment defined as given above.

1 = in sitter care	NCNOW = 1 and NCWEEK1 = 1 and NCPLACE = 1 or 3
0 = not in sitter care	else

(SITTER2)

In the care of a second sitter, if applicable. Coding same as (SITTER1).

(PRIMCARE)

Primary care arrangement (PRIMCARE) is a categorical variable created from the variables created to specify the hours spent per week in each type of care arrangement (see below: RELHRS, FDCHRS, SITHRS, HDHRS, CENNHRS) as follows:

1 = relative care	RELHRS is greater than all others
2 = family day care	FDCHRS is greater than all others
3 = sitter care	SITHRS is greater than all others
4 = Head Start	HDHRS is greater than all others
5 = non-Head Start center-based care	CENNHRS is greater than all others
6 = no nonparental care	ECENROL = 0

Program Characteristics

Some children participated in more than one early care program or arrangement of each type. To accommodate the children who attended multiple programs or arrangements, the variables used to describe the characteristics of the programs in which children were enrolled were created by first identifying the program or arrangement in which a child spent the most time, and then creating variables that described the characteristics of that program or arrangement. These variables are described below.

(MOSTHRS)	Hours of center-based program in which child spent the most time (CPHRS, HSHRS, NCHRS, RCHRS). If child attends two programs with same number of hours, choose first of the programs in alphanumeric order
(MOSTKID)	Number of children who attended the program in which the child spent the most time (CPKIDS, HSKIDS, NCKIDS, RCKIDS)

(MOSTADL)	Number of adults who cared for or taught children in the program in which child spent the most time NCADLTS, RCADLTS
(MOSTRAT)	Ratio of (CENKID) / (CENADL); (RELKID) / (RELADL); (FDCKID) / (FDCADL); (SITKID) / (SITADL); (HSKID) / (HSADL) for program in which child spent the most time
(MOSTLAN)	Language spoken most of the time by the care provider of the primary arrangement (CPSPEAK, HSSPEAK, NCSPEAK, RCSPEAK), coded 1 for English and 0 for other languages
(MOSTDIS)	Whether child's primary arrangement was more than a 10-minute commute from the child's home (CPTIME, HSTIME, NCTIME, RCTIME)
(CENPAR/HSPAR)	Whether the Head Start or non-Head Start center-based program encouraged and benefited from parental involvement is measured by dichotomizing the total score formed by adding the following: a) Parent involvement encouraged (CPARADV, HSPARADV) = 1 b) Actually worked (CPARWRK, HSPARWRK) = 1 c) Parent advisory group (CPARHRS, HSPARHRS) = 1 The sum of these variables could range from 0 to 3. The final variables (CENPAR/HSPAR) were constructed by recoding such that 0 = 0, and 1 = (1, 2, or 3)
(CENSER/HSSER)	Number of services provided by the Head Start program or non-Head Start center-based program = (CPDISAB, HSDISAB) + (CPHYSEX, HSPHYSEX) + (CPTEST, HSTEST) + (CPDENTAL, HSDENTAL)

(CENSICK/RELSICK/ FDCSICK/ SITSICK/ HSSICK)	Sick child care provided by the early care and education program or arrangement (CPSICK, HSSICK, NCSICK, RCSICK)

(CENCOST)

The cost per hour of center care (CENCOST) was constructed from CPFEE (is there any charge or fee for the program), CPWKSMO (weeks per month child attends program), CPDAYS (days per week child attends program), CPHRS (hours each week child attends program), CPCOST (how much household pays for child to attend program) and CPUNIT (unit of the price paid), CPCOSTHH (is the amount specified for one or more children), CPCOSTHN (how many children is the amount for), as follows:

if CPFEE = no, (CENCOST) = $0/hour

if CPFEE = yes and CPUNIT = per hour and CPCOSTHH = child only,
(CENCOST) = CPCOST

if CPFEE = yes and CPUNIT = per day and CPCSHH = child only,
(CENCOST) = CPCOST/(CPHRS/CPDAYS)

if CPFEE = yes and CPUNIT = per week and CPCSHH = child only,
(CENCOST) = CPCOST/CPHRS

if CPFEE = yes and CPUNIT = per month and CPCSHH = child only,
(CENCOST) = CPCOST/(CPHRS* 4.29)

if CPFEE = yes and CPUNIT = per year and CPCSHH = child only,
(CENCOST) = CPCOST/(CPHRS* 52)

if CPFEE = yes and CPUNIT = per hour and CPCSHH = child and others,
(CENCOST) = CPCOST/ CPCSHN

if CPFEE = yes and CPUNIT = per day and CPCSHH = child and others,
(CENCOST) = (CPCOST/(CPHRS/CPDAYS))/ CPCSHN

if CPFEE = yes and CPUNIT = per week and CPCSHH = child and others,
(CENCOST) = (CPCOST/CPHRS)/ CPCSHN

if CPFEE = yes and CPUNIT = per month and CPCSHH = child and others,
(CENCOST) = (CPCOST/(CPHRS* 4.29))/CPCSHN

if CPFEE = yes and CPUNIT = per year and CPCSHH = child and others,
(CENCOST) = (CPCOST/(CPHRS* 52))/CPCSHN

The same procedure was followed for family day care, sitters, relative care, and Head Start (RELCOST/FDCCOST/SITCOST/HSCOST) using:

Fee charged for this child (HSFEE, NCFEE, RCFEE)

Unit of time for cost reported (HSUNIT, NCUNIT, RCUNIT)

Is the amount specified for one or more children (HSCOSTHH, NCSTHH, RCSTHH)

How many children is the amount for (HSCOSTHN, NCSTHN, RCSTHN)

Days per week child attends program (HSDAYS, NCDAYS, RCDAYS)

Hours each week child attends program (HSHRS, NCHRS, RCHRS)

(CENEDUC / RELEDUC / FDCEDUC / SITEDUC / HSEDUC)

Whether teacher/provider in child's primary arrangement had received education or training specifically related to young children (CPEDUC, HSEDUC, NCEDUC, RCEDUC).

Parental Preferences

For each of the following areas, parents were asked, "I'm going to read some things that people look for in selecting child care arrangements or early childhood programs. For each one, please tell me if you think it is very important, somewhat important, or not important in selecting an arrangement for [child's name]":

A caregiver who has special training in taking care of children	PPTRAIN
A place where children will be cared for when they are sick	PPSICK
A place close to your home	PPCONV
A reasonable cost	PPCOST
A small number of children in the same class or group	PPKIDS
A caregiver or teacher who speaks English with your child	PPENGL

The original coding of these variables included the following categories: 1 = very important, 2 = somewhat important, 3 = not important, -7 = refused, -8 = don't know. Cases where the respondent refused to answer were removed from the analysis. For the remaining cases, these variables were recoded into dichotomies as follows:

1 = very important	original coding: 1
0 = not very important	original coding: 2, 3, -8

Source of Information about Program

For nonrelative, Head Start, and center arrangements, the child's parent was asked, "How did you learn about (this person as a care provider/that program) for (child)?"

These are categorized as:

friends, neighbors/relatives/coworkers — if NCFRIEND, HSFRIEND, or CPFRIEND = 1;

place of employment — if NCPLEMPL, HSPLEMPL, or CPPLEMPL = 1;

public or private school — if NCSCHOOL, HSSCHOOL, or CPSCHOOL = 1;

church, synagogue, or other place of worship — if NCCHURCH, HSCHURCH, or CPCHURCH = 1;

welfare or social service caseworkers — if NCSOCWKR, HSSOCWKR, or CPSOWKR = 1;

newspaper/advertisements/yellow pages — if NCADS, HSADS, CPADS = 1;

resource and referral (R&R) agency — if NCAGENCY, HSAGENCY, CPAGENCY = 1;

other — R already knew provider, provider cared for another child, reference materials, public bulletin boards/flyers, other — if

NCKNEW, NCCHILD, NCREFER, NCBULLET, NCSOURCE, NCSOUROS,

HSKNEW, HSCHILD, HSREFER, HSBULLET, HSSOURCE, HSSOUROS,

CPKNEW, CPCHILD, CPREFER, CPBULLET, CPSOURCE, or CPSOUROS = 1.

STATISTICAL PROCEDURES

Univariate Statistics

Since the estimates in this report are based on a sample, observed differences between two estimates can reflect either of two possibilities: differences that exist in the population at large and are reflected in the sample, or differences due solely to the composition of the sample that do not reflect underlying population differences. To minimize the risk of erroneously interpreting differences due to sampling alone as signifying population differences (a Type I error), the statistical significance of differences between estimates were tested using the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \qquad (1)$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. Note that this formula is valid only for independent estimates. When the estimates were not independent (for example, when comparing the percentages across a percentage distribution), a covariance term was added to the denominator of the t-test formula. Differences were judged to be statistically significant when the value of t was sufficiently large that the probability of a Type I error was no more than 5 percent (a significance level of .05). This procedure involved calculating Student's t-statistic for the difference between the means or proportions of interest, then comparing this value with published tables of critical values of t corresponding to a two-tailed hypothesis test with a significance level of .05.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large t statistics may appear to merit special attention. This can be misleading, since the magnitude of the t statistic is related not only to the observed differences in means or percentages but also to the number of students in the specific categories used for comparison. Hence, a small difference compared across a large number of students would produce a large t statistic.

A second hazard in reporting statistical tests for each comparison occurs when making multiple comparisons among categories of an independent variable. For example, when making paired comparisons among different levels of household income, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" are tested for statistical significance, one must apply a standard that assures a level of significance for all of those comparisons taken together.

Comparisons were made in this report only when $p \leq .05/k$ for a particular pairwise comparison, where that comparison was one of *k* tests within a family. This guarantees both that the individual comparison would have $p \leq .05$ and that for *k* comparisons within a family of possible comparisons, the significance level for all the comparisons will sum to $p \leq .05$.[6]

For example, in a comparison of the percentages of children in metropolitan and nonmetropolitan areas who were in parental care only, only one comparison is possible (metropolitan versus nonmetropolitan). In this family, $k=1$, and the comparison can be evaluated without adjusting the significance level. When children are divided into five groups based on household income and all possible comparisons are made, then $k=10$ and the significance level of each test must be $p \leq .05/10$, or $p \leq .005$. The formula for calculating family size (*k*) is as follows:

$$k = \frac{j(j-1)}{2} \tag{2}$$

where *j* is the number of categories for the variable being tested. In the case of household income, there are five income groups ($15,000 or less, $15,001–$25,000, $25,001–$35,000, $35,001–$50,000, and more than $50,000), so substituting 5 for *j* in equation 2,

$$k = \frac{5(5-1)}{2} = 10$$

Multivariate Statistics

Adjusted Mean Differences

In each of tables 5, 6, and 7 and appendix tables 4, 9, and 10 the statistics reported represent the differences in the mean value of an outcome variable that are associated with predictor variables. These differences were computed using multivariate ordinary least squares regression (OLS), a statistical procedure that relates variations in a set of dichotomous or continuous predictor variables to variation in a continuous outcome variable (Lewis-Beck 1990). In this report, adjusted mean differences were computed using the REGRESS procedure of the SUDAAN software, a statistical package that allows computation of statistics while taking into account complex sample designs.

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[6] The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the *t* statistic required to ensure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Olive Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association* 56: 52–64 (1961).

Odds Ratios

The statistics reported in tables 1, 2, 3, 13, and 14 and appendix tables 1, 2, 3, 7, and 8 represent the percentages of children that fell within particular categories. For example, table 3 shows that 95 percent of children whose primary arrangements were non-Head Start center-based arrangements and 18 percent of children whose primary arrangements were relative care had a provider trained in child development. These percentages can also be expressed relative to each other as an odds ratio. This ratio can be calculated in the following two steps:

1. The proportion of children cared for by relatives who were trained in child development = 0.18; odds = 0.18/(1-0.18) = 0.22. The proportion of children in non-Head Start centers who had a trained provider = 0.95; odds = 0.95/(1-0.95) = 19.0.
2. The odds ratio of children cared for by relatives versus children in non-Head Start centers = 0.22/19.0 = 0.01.

In simple terms, this means that being cared for by a relative rather than being enrolled in a non-Head Start center-based nonparental care arrangement decreases a child's odds of being cared for by a provider who has been trained in early childhood development by a factor of .01 or, in other words, those in relative care are about 99 percent less likely, in terms of odds, than those in non-Head Start centers to be cared for by a trained provider.

One can also use logistic regression to calculate these odds ratios. The logistic model is generally written in terms of the odds in the following manner:

$$\log \left[\frac{\text{Prob(event)}}{\text{Prob(no event)}} \right] = B_0 + B_1X_1 + \ldots + B_pX_p$$

or alternatively:

$$\frac{\text{Prob(event)}}{\text{Prob(no event)}} = e^{B_0 + B_1X_1 + \ldots + B_pX_p}$$

For example, using logistic regression, one can regress being cared for by a trained provider on the type of primary arrangement (coded as a series of dichotomous [1,0] variables). This model can be written as follows:

$$\frac{\text{Prob(trained provider)}}{\text{Prob(untrained provider)}} = e^{B_0 + B_{care=Head\ Start} + B_{care=FDC} + B_{care=Sitter} + B_{care=Relative}}$$

Fitting this model with the LOGISTIC procedure of the software SUDAAN, and specifying the sampling design WR to account for the complex sampling design of NHES, results in the following estimates:

	T-test			
Variable	**B**	**S.E.**	**B=0**	**Significance**
Constant	2.88	0.13	21.34	<0.001
Primary arrangement type				
Head Start center-based	0.53	0.46	1.17	0.243
Non-Head Start center-based		excluded		
Family day care	-2.96	0.16	18.51	<0.001
Sitter	-3.55	0.23	15.18	<0.001
Relative	-4.41	0.16	26.90	<0.001

The odds ratio comparing the odds of being cared for by a relative trained in child development with those of being enrolled in a non-Head Start center and having a provider trained in early childhood development is calculated by

$$\hat{\Psi} = e^{B_{care=Relative}} = e^{-4.41} = 0.01$$

which is approximately the same odds ratio calculated above. The significance of this odds ratio is identical to the significance of the *t*-test for the B coefficient upon which it is based.

Using logistic regression to calculate these simple odds ratios is not efficient. However, using logistic regression, one can also calculate the odds ratios for comparisons while *controlling for other variables*. The statistics in tables 8, 9, 10, 11, and 12 are the odds ratios of the presence of certain characteristics in a child's primary arrangements, adjusted for various other variables that are likely to be related to the characteristics of the children's nonparental care arrangement. For example, the model discussed above could be expanded by adding variables for the age and race of the child, census region and urbanicity of residence:

$$\frac{\text{Prob(trained prov)}}{\text{Prob(untrained prov)}} = e^{(B_0+B_{age=3,\,4,\,5}+B_{race=black}+..+B_{care=Head\ Start}+B_{care=FDC}+B_{care=Sitter}+B_{care=Relative})}$$

where $B_{age=3,\,4,\,5}$, $B_{race=black}$, etc., are dummy-coded variables with <1-, 1-, and 2-year-olds, white non-Hispanic children, etc., as reference groups, respectively. The results of this model are as follows:

Variable	B	S.E.	T-test B=0	Significance
Constant	2.78	0.30	9.16	<0.001
Age				
Less than 3			excluded	
3 or older	-0.02	0.11	0.18	n.s.
Race–ethnicity				
White, non-Hispanic			excluded	
Black, non-Hispanic	0.15	0.17	0.93	n.s.
Other, non-Hispanic	-0.49	0.15	3.17	0.002
Hispanic	-0.10	0.22	0.45	n.s.
Region				
Northeast			excluded	
Midwest	0.01	0.16	0.05	n.s.
South	0.14	0.17	0.83	n.s.
West	0.06	0.17	0.34	n.s.
Urbanicity				
Nonmetropolitan			excluded	
Metropolitan	0.14	0.14	1.00	n.s.
Primary arrangement type				
Head Start center	0.58	0.46	1.26	n.s.
Non-Head Start center			excluded	
Family day care	-2.97	0.17	17.16	<0.001
Sitter	-3.57	0.24	14.72	<0.001
Relative	-4.40	0.18	24.69	<0.001

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